SEQUENCE LISTING

	ODGOENCE LISTING
<110>	The Government of the United States of America as represented by the Secretary of the Department of Health and Human Services Drayna, Dennis Kim, Un-kyung
<120>	VARIANTS OF HUMAN TASTE RECEPTOR GENES
<130>	4239-66168-02
<150> <151>	US 60/480,035 2003-06-19
<160>	264
<170>	PatentIn version 3.2
<210> <211> <212> <213>	1 900 DNA Homo sapiens
<220> <221> <222>	CDS (1)(900)
<220> <221> <222> <223>	variation (332)(332) r is g or a
<222>	variation (616)(616) y is t or c
atg cta	gag tot cac oto att ato tat ttt ott ott goa gtg ata caa 48 Glu Ser His Leu Ile Ile Tyr Phe Leu Leu Ala Val Ile Gln 5 10 15
	ctt ggg att ttc aca aat ggc atc att gtg gtg gtg aat ggc 96 Leu Gly Ile Phe Thr Asn Gly Ile Ile Val Val Val Asn Gly 20 25 30
	ttg atc aag cac aga aaa atg gct ccg ctg gat ctc ctt ctt Leu Ile Lys His Arg Lys Met Ala Pro Leu Asp Leu Leu Leu 35 40 45
50	ctg gca gtt tct aga att ttt ctg cag ttg ttc atc ttc tac Leu Ala Val Ser Arg Ile Phe Leu Gln Leu Phe Ile Phe Tyr 55 60
65	gtg att gtt atc ttc ttc ata gaa ttc atc atg tgt tct gcg 240 Val Ile Val Ile Phe Phe Ile Glu Phe Ile Met Cys Ser Ala 70 75 80
aat tgt	gca att ctc tta ttt ata aat gaa ttg gaa ctt tgg ctt gcc 288

										2/4	47							
										90					95	u Ala		
				10	0		,,	- Oy	10	а шу: 5	s va.	I AL	a Sei	r Va:	l Xaa O	t cac a His		
			11.	5	•			120)	3. TT¢	e sei	с гу	s Let 125	ı Val	L Pro	tgg Trp	384	
	atg Met	11e	cto Lei	g gg ı Gl	g tct y Sei	cto Lev	g cta 1 Leu 135	yı	gta Val	tct Sei	ato Met	g ati	∍ Cys	gtt Val	tto Phe	cat His	432	
	145				-	150)		- 110	, 171	155	ь Lev	ı Arg	Lys	Ph∈	ttc Phe 160	480	
					165		· (11)	. Lys	, GIU	170	Thr	. Leu	ı Ala	Ile	Gln 175		528	
				180)		0	Der	185	PIO	ь теп	Leu	atc Ile	Phe 190	Léu	Phe	576	
			195					200	·	СΙУ	Arg	HIS	acc Thr 205	Arg	Gln	Met	624	
		210				2	215	1119	Val	PIO	стА	Arg 220	ggt Gly	Ala	Pro	Ile	672	
2	25					230		561	FILE	теп	235	Leu	tac Tyr	Phe	Ser	His 240	720	
					245			501	Der	250	туѕ	Pne	cac His	Ile	Arg 255	Arg	768	
t P	tc he	atc Ile	ttt Phe	ctg Leu 260	ttc Phe	ttc Phe	atc Ile	ctt Leu	gtg Val 265	att Ile	ggt Gly	ata Ile	tac Tyr	cct Pro 270	tct Ser	gga Gly	816	
C:	ac is	tct Ser	ctc Leu 275	atc Ile	tta Leu	att Ile		gga Gly 280	aat Asn	cct Pro	aaa Lys	ttg Leu	aaa Lys 285	caa Gln	aat Asn	gca Ala	864	
a: L <u>y</u>	•	aag Lys 290	ttc Phe	ctc Leu	ctc Leu	HIS	agt Ser 295	aag Lys	tgc Cys	tgt Cys	cag Gln	tga					900	

<210> 2 <211> 299 <212> PRT <213> Homo sapiens <220>

<221> misc_feature

<222> (111)..(111)

<223> The 'Xaa' at location 111 stands for Arg, or His.

<400> 2

Met Leu Glu Ser His Leu Ile Ile Tyr Phe Leu Leu Ala Val Ile Gln 1 5 10 15

Phe Leu Leu Gly Ile Phe Thr Asn Gly Ile Ile Val Val Asn Gly 20 25 30

Ile Asp Leu Ile Lys His Arg Lys Met Ala Pro Leu Asp Leu Leu 35 40 45

Ser Cys Leu Ala Val Ser Arg Ile Phe Leu Gln Leu Phe Ile Phe Tyr 50 55 60

Val Asn Val Ile Val Ile Phe Phe Ile Glu Phe Ile Met Cys Ser Ala 65 70 75 80

Asn Cys Ala Ile Leu Leu Phe Ile Asn Glu Leu Glu Leu Trp Leu Ala 85 90 95

Thr Trp Leu Gly Val Phe Tyr Cys Ala Lys Val Ala Ser Val Xaa His 100 105 110

Pro Leu Phe Ile Trp Leu Lys Met Arg Ile Ser Lys Leu Val Pro Trp 115 120 125

Met Ile Leu Gly Ser Leu Leu Tyr Val Ser Met Ile Cys Val Phe His 130 135 140

Ser Lys Tyr Ala Gly Phe Met Val Pro Tyr Phe Leu Arg Lys Phe Phe 145 150 155 160

Ser Gln Asn Ala Thr Ile Gln Lys Glu Asp Thr Leu Ala Ile Gln Ile 165 170 175

Phe Ser Phe Val Ala Glu Phe Ser Val Pro Leu Leu Ile Phe Leu Phe 180 185 190

Ala Val Leu Leu Leu Ile Phe Ser Leu Gly Arg His Thr Arg Gln Met 195 200 205

Arg Asn Thr Val Ala Gly Ser Arg Val Pro Gly Arg Gly Ala Pro Ile 210 215 220

Ser Ala Leu Leu Ser Ile Leu Ser Phe Leu Ile Leu Tyr Phe Ser His 225 230 235 240	
Cys Met Ile Lys Val Phe Leu Ser Ser Leu Lys Phe His Ile Arg Arg 245 250 255	
Phe Ile Phe Leu Phe Phe Ile Leu Val Ile Gly Ile Tyr Pro Ser Gly 260 265 270	
His Ser Leu Ile Leu Ile Leu Gly Asn Pro Lys Leu Lys Gln Asn Ala 275 280 285	
Lys Lys Phe Leu Leu His Ser Lys Cys Cys Gln 290 295	
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<220> <221> CDS <222> (1)(951)	
<220> <221> variation <222> (349)(349) <223> y is t or c	
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<220> <221> variation <222> (852)(852) <223> y is t or c	
<pre><400> 3 atg atg gga ctc acc gag ggg gtg ttc ctg att ctg tct ggc act cag Met Met Gly Leu Thr Glu Gly Val Phe Leu Ile Leu Ser Gly Thr Gln 1</pre>	48
ttc aca ctg gga att ctg gtc aat tgt ttc att gag ttg gtc aat ggt Phe Thr Leu Gly Ile Leu Val Asn Cys Phe Ile Glu Leu Val Asn Gly 20 25 30	96
agc agc tgg ttc aag acc aag aga atg tct ttg tct gac ttc atc atc Ser Ser Trp Phe Lys Thr Lys Arg Met Ser Leu Ser Asp Phe Ile Ile 35	144
acc acc ctg gca ctc ttg agg atc att ctg ctg tgt att atc ttg act	192

											5/44										
	Th	r Th 50	r Le	eu A	la	Leu	ı Le	3 Ar	g Il	e Il	e Le	u Le	eu Cy 60	ys I O	le	Ile	e Le	u Th	.r		
	65						70		J 500.	t cc r Pr	O AS	75	r Hi	is A	sp	Se	c Gl	y Il 80	е		240
						85				c tgo	90	r Pn	e Tr	ır A	sn	His	5 Le: 95	ı Se	r		288
				1	00		-,-	ВСС	, Gr	t gto Y Val	г те	и ту	т Су	s Le	eu	Lys 110	; Ile	Ala	a		336
			11	5					120		теі	т гъ	s Tr	р Аз 12	cg 25	Val	. Sei	Arq	3		384
		130)		•			135	. 013	gca Ala	тег	т те	и Le 14	u Se O	er	Cys	Gl)	7 Ser	-		432
	145						150	014		aag Lys	пер	15!	r Se. 5	r Va	11	Phe	Arg	Gly 160	7)		480
						165		VUL	T 111	gaa Glu	170	Pne	€ Ar	д Гу	s :	Lys	Arg 175	Ser	•	!	528
			_	18	0			V 4 1	шeu	ggg Gly 185	Inr	rer	ı Tr	э Ту	r	Leu 190	Pro	Pro		į	576
			195	i		_		501	200	tct Ser	ьец	rec	1 116	Ph 20	e \$ 5	Ser	Leu	Gly		6	524
		210			_			215	OIII	aat Asn	атЪ	THE	220	Se:	r Æ	Arg	Asp	Pro		6	572
	225						230	-11.9	nia	atc Ile	Arg	235	TTE	e Lei	u S	er	Phe	Phe 240		7	20
					2	45	-,,-	- 110	Dea	gct Ala	250	ьеи	TTe	Ala	a S	er	Phe 255	Gly		7	68
				26	ס			1-	1100	gct Ala 265	пуз	мет	TIE	Xaa	2 G	1u 70	Val	Met		8	16
	aca Thr	atg Met	ttt Phe 275	tai Ty:	t c	ct o	gct Ala	- L y	cac His 280	tca Ser	ttt Phe	att Ile	cty Xaa	att Ile 285	L	tg eu	GJ Å aaa	aac Asn		8	64
5	agt Ser	aag Lys	ctg Leu	aag Lys	7 C	ag a ln 1	aca Thr	ttt Phe	gta Val	gtg Val	atg Met	ctc Leu	cgg Arg	tgt Cys	g. G.	ag :	tct Ser	ggt Gly		9:	12

290 295 300

cat ctg aag cct gga tcc aag gga ccc att ttc tct tag His Leu Lys Pro Gly Ser Lys Gly Pro Ile Phe Ser 951 310

<210> 4

<211> 316 <212> PRT <213> Homo sapiens

<220>

<221> misc_feature <222> (117)..(117)

<223> The 'Xaa' at location 117 stands for Pro, or Ser.

<220>

<221> misc_feature

<222> (269)..(269)

<223> The 'Xaa' at location 269 stands for Gly.

<220>

<221> misc_feature

<222> (284)..(284)

<223> The 'Xaa' at location 284 stands for Leu.

<400> 4

Met Met Gly Leu Thr Glu Gly Val Phe Leu Ile Leu Ser Gly Thr Gln

Phe Thr Leu Gly Ile Leu Val Asn Cys Phe Ile Glu Leu Val Asn Gly

Ser Ser Trp Phe Lys Thr Lys Arg Met Ser Leu Ser Asp Phe Ile Ile

Thr Thr Leu Ala Leu Leu Arg Ile Ile Leu Leu Cys Ile Ile Leu Thr

Asp Ser Phe Leu Ile Glu Phe Ser Pro Asn Thr His Asp Ser Gly Ile

Ile Met Gln Ile Ile Asp Val Ser Trp Thr Phe Thr Asn His Leu Ser

Ile Trp Leu Ala Thr Cys Leu Gly Val Leu Tyr Cys Leu Lys Ile Ala

Ser Phe Ser His Xaa Thr Phe Leu Trp Leu Lys Trp Arg Val Ser Arg 120

160

Val	Met	Val	Trp	Met	Leu	Leu	Glv	Ala	Leu	Leu	Len	Ser	Cve	Glv	802
	130		_			135	-				140	001	Cys	GIY	Ser

Thr Ala Ser Leu Ile Asn Glu Phe Lys Leu Tyr Ser Val Phe Arg Gly

Ile Glu Ala Thr Arg Asn Val Thr Glu His Phe Arg Lys Lys Arg Ser 165 170 175

Glu Tyr Tyr Leu Ile His Val Leu Gly Thr Leu Trp Tyr Leu Pro Pro 180 185 190

Leu Ile Val Ser Leu Ala Ser Tyr Ser Leu Leu Ile Phe Ser Leu Gly
195 200 205

Arg His Thr Arg Gln Met Leu Gln Asn Gly Thr Ser Ser Arg Asp Pro 210 215 220

Thr Thr Glu Ala His Lys Arg Ala Ile Arg Ile Ile Leu Ser Phe Phe 225 230 235 240

Phe Leu Phe Leu Tyr Phe Leu Ala Phe Leu Ile Ala Ser Phe Gly 245 250 255

Asn Phe Leu Pro Lys Thr Lys Met Ala Lys Met Ile Xaa Glu Val Met 260 265 270

Thr Met Phe Tyr Pro Ala Gly His Ser Phe Ile Xaa Ile Leu Gly Asn 275 280 285

Ser Lys Leu Lys Gln Thr Phe Val Val Met Leu Arg Cys Glu Ser Gly 290 295 300

His Leu Lys Pro Gly Ser Lys Gly Pro Ile Phe Ser 305 310 315

<210> 5

<211> 900

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(900)

<220>

<221> variation

<222> (8)..(8)

8/447

<22	3>	y is	to	rc												
<22	0>															
<22	1>	vari	atio	n												
<22		(20)														
		y is														
<22	0>															
		vari														
	2>	(186														
<22	3>	w is	t o	r a												
<22																
		vari														
		(286														
		s is	CO	r g												
<22																
		vari														
		(512 r is														
<40		5		_												
			tta	++~	+ = +	+	+									
Met	Leu	Xaa	Leu	Phe	Tvr	Xaa	Ser	gct Mla	att	att	gcc	tca	gtt	att	tta Leu	48
1				5	-1-	naa	261	nia	10	тте	Ата	ser	Val		Leu	
·														15		
aat	ttt	gta	gga	atc	att	atg	aat	ctg	ttt	att	aca	gtg	gtc	aat	tgc	96
ASI	Pne	Val	GTA	Ile	Ile	Met	Asn	Leu	Phe	Ile	Thr	Val	Val	Asn	Cys	
			20					25					30			
aaa	act	tgg	gtc	aaa	agc	cat	aga	atc	tcc	tct	tct	gat	agg	att	ctg	144
Lys	Thr	TTP	Val	Lys	Ser	His	Arg	Ile	Ser	Ser	Ser	Asp	Ara	Ile	Leu	144
		35					40					45	,			
ttc	age	cta	aac	atc	200	200	+++			. 1						
Phe	Ser	ctg Leu	Glv	Tle	Thr	Arg	Dho	CUU	atg	ctg	gga	cta	ttw	ctg	gtg	192
	50		1			55	1116	пеа	mer	пеп	60 GTA	Leu	Xaa	Leu	Val	
aac	acc	atc	tac	ttc	gtc	tct	tca	aat	acg	gaa	agg	tca	atc	tac	cta	240
	Thr	Ile	Tyr	Phe	val	Ser	Ser	Asn	Thr	Glu	Arg	Ser	Val	Tyr	Leu	240
65					70					75				-	80	
tct	act	ttt	+++	ata	++~	+ ~+	++-			.						
Ser	Ala	ttt Phe	Phe	Val	Len	Cvs	Phe	Mo+	Dho	ttg	gac	tcg	agc	agt	stc	288
				85		-7-0	2110	1100	90	пеп	Asp	ser	ser	Ser 95	xaa	
tgg	ttt	gtg	acc	ttg	ctċ	aat	atc	ttg	tac	tgt	gtg	aag	att	act	aac	336
irb	Pne	Val	IIII	Leu	Leu	Asn	Ile	Leu	Tyr	Cys	Val	Lys	Ile	Thr	Asn	
			100					105					110			
ttc	caa	cac	tca	ata	+++	ctc	cta	c+ a	224							
Phe	Gln	cac His	Ser	Val	Phe	Tien	Len	Len	Luc	cgg	aat	atc	tcc	cca	aag	384
		115	_			~	120		~ys	A. Y	USII	125	ser	rro	гля	
atc	CCC	agg	ctg	ctg	ctg	gcc	tgt	gtg	ctg	att	tct	gct	ttc	acc	act	432
тте	Pro 130	Arg	Leu	Leu	Leu	АТа	Cys	Val	Leu	Ile	Ser	Ala	Phe	Thr	Thr	-05
	100					135					140					
tgc	ctg	tac	atc	aco	ctt	age	cad	aca	tca	cc+.	+++					
Cys	Leu	Tyr	Ile	Thr	Leu	Ser	Gln	Ala	Ser	Pro	Pho	Pro	gaa	CCC	gtg	480
											~		Jru	пeп	val	

9/447

145				150					155					160		
act a Thr T	cg aga hr Arg	aat Asn	aac Asn 165	aca Thr	tca Ser	ttt Phe	aat Asn	atc Ile 170	art Xaa	gag Glu	ggc Gly	atc Ile	ttg Leu 175	tct Ser		528
tta g Leu V	tg gtt al Val	tct Ser 180	ttg Leu	gtc Val	ttg Leu	agc Ser	tca Ser 185	tct Ser	ctc Leu	cag Gln	ttc Phe	atc Ile 190	att Ile	aat Asn		576
gtg ao Val Ti	ct tct hr Ser 195	gct Ala	tcc Ser	ttg Leu	cta Leu	ata Ile 200	cac His	tcc Ser	ttg Leu	agg Arg	aga Arg 205	cat His	ata Ile	cag Gln		624
-30 11	tg cag et Gln 10	aaa Lys	aat Asn	gcc Ala	act Thr 215	ggt Gly	ttc Phe	tgg Trp	aat Asn	ccc Pro 220	cag Gln	acg Thr	gaa Glu	gct Ala		672
cat gi His Va 225	ta ggt al Gly	gct Ala	atg Met	aag Lys 230	ctg Leu	atg Met	gtc Val	tat Tyr	ttc Phe 235	ctc Leu	atc Ile	ctc Leu	tac Tyr	att Ile 240		720
cca ta Pro Ty	at tca yr Ser	gtt Val	gct Ala 245	acc Thr	ctg Leu	gtc Val	cag Gln	tat Tyr 250	ctc Leu	ccc Pro	ttt Phe	tat Tyr	gca Ala 255	GTÅ aaa	•	768
atg ga Met As	at atg sp Met	ggg Gly 260	acc Thr	aaa Lys	tcc Ser	att Ile	tgt Cys 265	ctg Leu	att Ile	ttt Phe	gcc Ala	acc Thr 270	ctt Leu	tac Tyr		816
tct co Ser Pi	ca gga co Gly 275	cat His	tct Ser	gtt Val	ctc Leu	att Ile 280	att Ile	atc Ile	aca Thr	cat His	cct Pro 285	aaa Lys	ctg Leu	aaa Lys		864
aca ac Thr Th	ca gca nr Ala 90	aag Lys	aag Lys	att Ile	ctt Leu 295	tgt Cys	ttc Phe	aaa Lys	aaa Lys	tag						900
<210> <211> <212> <213>	6 299 PRT Homo	sapi	ens													
<220> <221> <222> <223>	(3)	(3)		loca	tion	. 3 s	tand	s fo	r Ar	g, G	ln,	or H	is.			
<220> <221> <222> <223>	(7)	(7)		loca	tion	. 7 s	tand	s fo	r Se	r, o	r Ph	e.				
<220> <221> <222> <223>	(62).	. (62)	loca	tion	62	stan	ds f	or L	eu,	or P	he.				
<220> <221>																

<222> (96)..(96)

<223> The 'Xaa' at location 96 stands for Val, or Leu.

<220>

<221> misc_feature

<222> (171)..(171)

<223> The 'Xaa' at location 171 stands for Ser, or Asn.

<400> 6

Met Leu Xaa Leu Phe Tyr Xaa Ser Ala Ile Ile Ala Ser Val Ile Leu 1 5 10 15

Asn Phe Val Gly Ile Ile Met Asn Leu Phe Ile Thr Val Val Asn Cys 20 25 30

Lys Thr Trp Val Lys Ser His Arg Ile Ser Ser Ser Asp Arg Ile Leu 35 40 45

Phe Ser Leu Gly Ile Thr Arg Phe Leu Met Leu Gly Leu Xaa Leu Val 50 60

Asn Thr Ile Tyr Phe Val Ser Ser Asn Thr Glu Arg Ser Val Tyr Leu 65 70 75 80

Ser Ala Phe Phe Val Leu Cys Phe Met Phe Leu Asp Ser Ser Ser Xaa 85 90 95

Trp Phe Val Thr Leu Leu Asn Ile Leu Tyr Cys Val Lys Ile Thr Asn 100 105 110

Phe Gln His Ser Val Phe Leu Leu Leu Lys Arg Asn Ile Ser Pro Lys 115 120 125

Ile Pro Arg Leu Leu Leu Ala Cys Val Leu Ile Ser Ala Phe Thr Thr 130 135 140

Cys Leu Tyr Ile Thr Leu Ser Gln Ala Ser Pro Phe Pro Glu Leu Val 145 150 155 160

Thr Thr Arg Asn Asn Thr Ser Phe Asn Ile Xaa Glu Gly Ile Leu Ser 165 170 175

Leu Val Val Ser Leu Val Leu Ser Ser Ser Leu Gln Phe Ile Ile Asn 180 185 190

Val Thr Ser Ala Ser Leu Leu Ile His Ser Leu Arg Arg His Ile Gln 195 200 205

Lys Met Gln Lys Asn Ala Thr Gly Phe Trp Asn Pro Gln Thr Glu Ala

His Val Gly Ala Met Lys Leu Met Val Tyr Phe Leu Ile Leu Tyr Ile 230 235

Pro Tyr Ser Val Ala Thr Leu Val Gln Tyr Leu Pro Phe Tyr Ala Gly 245

Met Asp Met Gly Thr Lys Ser Ile Cys Leu Ile Phe Ala Thr Leu Tyr 265

Ser Pro Gly His Ser Val Leu Ile Ile Ile Thr His Pro Lys Leu Lys 275 280

Thr Thr Ala Lys Lys Ile Leu Cys Phe Lys Lys 295

<210> 7

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<220>

<221> CDS <222> (1)..(900)

<220>

<221> variation <222> (77)..(77) <223> k is g or t

<220>

<221> variation <222> (235)..(235)

<223> y is t or c

<220>

<221> variation <222> (338)..(338)

<223> y is t or c

<220>

<221> variation

<222> (500)..(500)

<223> r is a or g

<220>

<221> variation

<222> (638)..(638)

<223> r is a or g

<220>

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<22	21> 22> 23>	(883	iatio l) s g o	(881)	ı					,							
ato Met 1				5		z Cly	пеп	пе:	10	, re.	ı Val	. Ala	ı Val	. Va] 15	gaa Glu		48
			20		. 110	, GIA	ASII	25	' xaa	. цет	ı Val	. Val	Trp 30	Ser	ttt Phe	,	96
_		35		9	1 270		40	тrр	ser	Ser	. Tyr	Asn 45	Leu	Ile	atc : Ile		144
ctg Leu	ggc Gly 50	ctg Leu	gct Ala	ggc	tgc Cys	cga Arg 55	ttt Phe	ctc Leu	ctg Leu	cag Gln	tgg Trp 60	ctg Leu	atc Ile	att	ttg Leu		192
gac Asp 65	tta Leu	agc Ser	ttg Leu	ttt Phe	cca Pro 70	ctt Leu	ttc Phe	cag Gln	agc Ser	agc Ser 75	cgt Arg	tgg Trp	ctt Leu	ygc Xaa	tat Tyr 80		240
ctt Leu	agt Ser	atc Ile	ttc Phe	tgg Trp 85	gtc Val	ctg Leu	gta Val	agc Ser	cag Gln 90	gcc Ala	agc Ser	tta Leu	tgg Trp	ttt Phe 95	gcc Ala		288
acc Thr	ttc Phe	ctc Leu	agt Ser 100	gtc Val	ttc Phe	tat Tyr	tgc Cys	aag Lys 105	aag Lys	atc Ile	acg Thr	acc Thr	ttc Phe 110	gat Asp	cgc Arg		336
суд Хаа	gcc Ala	tac Tyr 115	ttg Leu	tgg Trp	ctg Leu	aag Lys	cag Gln 120	agr Arg	gcc Ala	tat Tyr	aac Asn	ctg Leu 125	agt Ser	ctc Leu	tgg Trp		384
tgc Cys	ctt Leu 130	ctg Leu	Gly	tac Tyr	ttt Phe	ata Ile 135	atc Ile	aat Asn	ttg Leu	tta Leu	ctt Leu 140	aca Thr	gtc Val	caa Gln	att Ile		432
ggc Gly 145	tta Leu	aca Thr	ttc Phe	tat Tyr	cat His 150	cct Pro	ccc Pro	caa Gln	gga Gly	aac Asn 155	agc Ser	agc Ser	att Ile	cgg Arg	tat Tyr 160		480
ccc Pro	ttt Phe	gaa Glu	agc Ser	tgg Trp 165	cag Gln	trc Xaa	ctg Leu	tat Tyr	gca Ala 170	ttt Phe	cag Gln	ctc Leu	aat Asn	tca Ser 175	gga Gly		528
agt Ser	tat Tyr	ttg Leu	cct Pro 180	tta Leu	gtg Val	gtg Val	ttt Phe	ctt Leu 185	gtt Val	tcc Ser	tct Ser	gly ggg	atg Met 190	ctg Leu	att Ile		576
gtc Val	tct Ser	ttg Leu 195	tat Tyr	aca Thr	cac His	cac His	aag Lys 200	aag Lys	atg Met	aag Lys	gtc Val	cat His 205	tca Ser	gct Ala	ggt Gly		624
agg Arg	agg Arg 210	gat Asp	gtc Val	crg Xaa	gcc Ala	aag Lys 215	gct Ala	cac His	atc Ile	act Thr	gcg Ala 220	ctg Leu	aag Lys	tcc Ser	ttg Leu		672

ggc tgc ttc ctc tta ctt cac ctg gtt tat atc atg gcc agc ccc ttc Gly Cys Phe Leu Leu His Leu Val Tyr Ile Met Ala Ser Pro Phe 225 230 235 240	720
tcc atc acc tcc aag act tat cct cct gat ctc acc agt gtc ttc atc Ser Ile Thr Ser Lys Thr Tyr Pro Pro Asp Leu Thr Ser Val Phe Ile 245 250 255	768
tgg gag aca ctc atg gca gcc tat cct tct ctt cat tct ctc ata ttg Trp Glu Thr Leu Met Ala Ala Tyr Pro Ser Leu His Ser Leu Ile Leu 260 265 270	816
atc atg ggg att cct agg gtg aag cag act tgt cag aag atc ctg tgg Ile Met Gly Ile Pro Arg Val Lys Gln Thr Cys Gln Lys Ile Leu Trp 275 280 285	864
aag aca gtg tgt gct ckg aga tgc tgg ggc cca tga Lys Thr Val Cys Ala Xaa Arg Cys Trp Gly Pro 290 295	900
<210> 8 <211> 299 <212> PRT	
<213> Homo sapiens	
<pre><220> <221> misc_feature <222> (26)(26) <223> The 'Xaa' at logation 26 stands 5</pre>	
and at location 20 stands for Ser, or Ile.	
<220> <221> misc_feature	
<222> (79)(79)	
at 200ation 79 stands for Arg, or Cys.	
<220> <221> misc_feature	
<222> (113)(113)	,
<223> The 'Xaa' at location 113 stands for Pro, or Leu.	
<220>	
<221> misc_feature <222> (167)(167)	
<222> (167)(167) <223> The 'Xaa' at location 167 stands for Cys, or Tyr.	
<220> <221> misc_feature	
<222> (213)(213)	
<223> The 'Xaa' at location 213 stands for Arg, or Gln.	
<220>	
<221> misc feature	
<222> (294)(294)	
<223> The 'Xaa' at location 294 stands for Arg, or Leu.	
<400> 8	
Met Leu Ser Ala Gly Leu Gly Leu Leu Met Leu Val Ala Val Val Glu 1 5 10 15	

- Phe Leu Ile Gly Leu Ile Gly Asn Gly Xaa Leu Val Val Trp Ser Phe 20 25 30
- Arg Glu Trp Ile Arg Lys Phe Asn Trp Ser Ser Tyr Asn Leu Ile Ile 35 40 45
- Leu Gly Leu Ala Gly Cys Arg Phe Leu Leu Gln Trp Leu Ile Ile Leu 50 55 60
- Asp Leu Ser Leu Phe Pro Leu Phe Gln Ser Ser Arg Trp Leu Xaa Tyr 65 70 75 80
- Leu Ser Ile Phe Trp Val Leu Val Ser Gln Ala Ser Leu Trp Phe Ala 85 90 95
- Thr Phe Leu Ser Val Phe Tyr Cys Lys Lys Ile Thr Thr Phe Asp Arg 100 105 110
- Xaa Ala Tyr Leu Trp Leu Lys Gln Arg Ala Tyr Asn Leu Ser Leu Trp 115 120 125
- Cys Leu Leu Gly Tyr Phe Ile Ile Asn Leu Leu Leu Thr Val Gln Ile 130 135 140
- Gly Leu Thr Phe Tyr His Pro Pro Gln Gly Asn Ser Ser Ile Arg Tyr 145 150 155 160
- Pro Phe Glu Ser Trp Gln Xaa Leu Tyr Ala Phe Gln Leu Asn Ser Gly 165 170 175
- Ser Tyr Leu Pro Leu Val Val Phe Leu Val Ser Ser Gly Met Leu Ile 180 185 190
- Val Ser Leu Tyr Thr His His Lys Lys Met Lys Val His Ser Ala Gly
 195 200 205
- Arg Arg Asp Val Xaa Ala Lys Ala His Ile Thr Ala Leu Lys Ser Leu 210 215 220
- Gly Cys Phe Leu Leu Leu His Leu Val Tyr Ile Met Ala Ser Pro Phe 225 230 235 240
- Ser Ile Thr Ser Lys Thr Tyr Pro Pro Asp Leu Thr Ser Val Phe Ile 245 250 255

Trp Glu Thr Leu Met Ala Ala Tyr Pro Ser Leu His Ser Leu Ile Leu 260 265 270	
Ile Met Gly Ile Pro Arg Val Lys Gln Thr Cys Gln Lys Ile Leu Trp 275 280 285	
Lys Thr Val Cys Ala Xaa Arg Cys Trp Gly Pro 290 295	
<210> 9 <211> 957 <212> DNA <213> Homo sapiens	
<220> <221> CDS <222> (1)(957) <223> y is t or c	
<220> <221> variation <222> (788)(788) <223> y is t or c	
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ttt tca gtg ggg atc tta ggg aat gca ttc att gga ttg gta aac tgc Phe Ser Val Gly Ile Leu Gly Asn Ala Phe Ile Gly Leu Val Asn Cys 20 25 30	96
atg gac tgg gtc aag aag agg aaa att gcc tcc att gat tta atc ctc Met Asp Trp Val Lys Lys Arg Lys Ile Ala Ser Ile Asp Leu Ile Leu 35 40 45	144
aca agt ctg gcc ata tcc aga att tgt cta ttg tgc gta ata cta tta Thr Ser Leu Ala Ile Ser Arg Ile Cys Leu Leu Cys Val Ile Leu Leu 50 55 60	192
gat tgt ttt ata ttg gtg cta tat cca gat gtc tat gcc act ggt aaa Asp Cys Phe Ile Leu Val Leu Tyr Pro Asp Val Tyr Ala Thr Gly Lys 65 70 75 80	240
gaa atg aga atc att gac ttc ttc tgg aca cta acc aat cat tta agt Glu Met Arg Ile Ile Asp Phe Phe Trp Thr Leu Thr Asn His Leu Ser 85 90 95	288
100 105 The Ala inf Cys Led Ser Ile Tyr Tyr Phe Phe Lys Ile Gly	336
aat ttc ttt cac cca ctt ttc ctc tgg atg aag tgg aga att gac agg Asn Phe Phe His Pro Leu Phe Leu Trp Met Lys Trp Arg Ile Asp Arg 115 120 125	384

gtg Val	att Ile 130	tcc Ser	tgg Trp	att Ile	cta Leu	ctg Leu 135	GJ A aaa	tgc Cys	gtg Val	gtt Val	ctc Leu 140	tct Ser	gtg Val	ttt Phe	att Ile	432
agc Ser 145	ctt Leu	cca Pro	gcc Ala	act Thr	gag Glu 150	aat Asn	ttg Leu	aac Asn	gct Ala	gat Asp 155	ttc Phe	agg Arg	ttt Phe	tgt Cys	gtg Val 160	480
.		aag Lys	111.9	165	1111	ASII	ьец	rnr	170	Ser	Cys	Arg	Val	Asn 175	Lys	528
		cat His	180	Der	1111	пуѕ	ьец	185	Leu	Asn	Leu	Ala	Thr 190	Leu	Leu	576
		tgt Cys 195	741	Cys	пец	met	200	Pne	Pne	Leu	Leu	11e 205	Leu	Ser	Leu	624
,	210			ra. g	Arg	215	GIU	ьеи	ser	Ala	Thr 220	Gly	Cys	Arg	Asp	672
225		aca Thr	O14	1114	230	val	Arg	Ата	ьeu	Lуs 235	Ala	Val	Ile	Ser	Phe 240	720
		ctc Leu	1116	245	AIA	īĀĒ	Tyr	ьеи	250	Phe	Leu	Ile	Ala	Thr 255	Ser	768
	-1-	ttt Phe	260	110	GLU	Add	GIU	265	Ата	Val	Ile	Phe	Gly 270	Glu	Ser	816
		cta Leu 275	116	тут	FLO	ser	280	HIS	Ser	Phe	Ile	Leu 285	Ile	Leu	Gly	864
	290	aaa Lys	Dea	rarg	1112	295	ser	ьец	гÃг	Val	11e 300	Trp	Lys	Val	atg Met	912
tct Ser 305	att Ile	cta Leu	aaa Lys	gga Gly	aga Arg 310	aaa Lys	ttc Phe	caa Gln	Gln	cat His 315	aaa Lys	caa Gln	atc Ile	tga		957
<210 <211 <212 <213	> 3 > E	10 318 PRT Iomo	sapi	ens												
<220 <221 <222 <223	> n > (isc_ 263) he '	(2	63)	loca	tion	263	sta	nds	for	Thr.	or	Me+			
<400										-	,					

<400> 10

- Met Ala Asp Lys Val Gln Thr Thr Leu Leu Phe Leu Ala Val Gly Glu

 5 10 15
- Phe Ser Val Gly Ile Leu Gly Asn Ala Phe Ile Gly Leu Val Asn Cys 20 25 30
- Met Asp Trp Val Lys Lys Arg Lys Ile Ala Ser Ile Asp Leu Ile Leu 35 40 45
- Thr Ser Leu Ala Ile Ser Arg Ile Cys Leu Leu Cys Val Ile Leu Leu 50 55 60
- Asp Cys Phe Ile Leu Val Leu Tyr Pro Asp Val Tyr Ala Thr. Gly Lys 65 70 75 80
- Glu Met Arg Ile Ile Asp Phe Phe Trp Thr Leu Thr Asn His Leu Ser 85 90 95
- Ile Trp Phe Ala Thr Cys Leu Ser Ile Tyr Tyr Phe Phe Lys Ile Gly
- Asn Phe Phe His Pro Leu Phe Leu Trp Met Lys Trp Arg Ile Asp Arg 115 . 120 . 125
- Val Ile Ser Trp Ile Leu Leu Gly Cys Val Val Leu Ser Val Phe Ile 130 135 140
- Ser Leu Pro Ala Thr Glu Asn Leu Asn Ala Asp Phe Arg Phe Cys Val 145 150 155 160
- Lys Ala Lys Arg Lys Thr Asn Leu Thr Trp Ser Cys Arg Val Asn Lys 165 170 175
- Thr Gln His Ala Ser Thr Lys Leu Phe Leu Asn Leu Ala Thr Leu Leu 180 185 190
- Pro Phe Cys Val Cys Leu Met Ser Phe Phe Leu Leu Ile Leu Ser Leu 195 200 205
- Arg Arg His Ile Arg Arg Met Gln Leu Ser Ala Thr Gly Cys Arg Asp 210 215 220
- Pro Ser Thr Glu Ala His Val Arg Ala Leu Lys Ala Val Ile Ser Phe 225 235 240
- Leu Leu Phe Ile Ala Tyr Tyr Leu Ser Phe Leu Ile Ala Thr Ser

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245 250 255 Ser Tyr Phe Met Pro Glu Xaa Glu Leu Ala Val Ile Phe Gly Glu Ser 260 265 Ile Ala Leu Ile Tyr Pro Ser Ser His Ser Phe Ile Leu Ile Leu Gly Asn Asn Lys Leu Arg His Ala Ser Leu Lys Val Ile Trp Lys Val Met Ser Ile Leu Lys Gly Arg Lys Phe Gln Gln His Lys Gln Ile 310 <210> 11 <211> 930 <212> DNA <213> Homo sapiens <220> <221> CDS <222> (1)..(930) <220> <221> variation <222> (496)..(496) <223> r is a or g <220> <221> variation <222> (549)..(549) <223> r is a or g <220> <221> variation <222> (829)..(829) <223> y is t or c <220> <221> variation <222> (922)..(922) <223> r is a or g <400> 11 atg ttc agt cct gca gat aac atc ttt ata atc cta ata act gga gaa 48 Met Phe Ser Pro Ala Asp Asn Ile Phe Ile Ile Leu Ile Thr Gly Glu ttc ata cta gga ata ttg ggg aat gga tac att gca cta gtc aac tgg 96 Phe Ile Leu Gly Ile Leu Gly Asn Gly Tyr Ile Ala Leu Val Asn Trp att gac tgg att aag aag aaa aag att tcc aca gtt gac tac atc ctt 144 Ile Asp Trp Ile Lys Lys Lys Ile Ser Thr Val Asp Tyr Ile Leu

40

	50					55	,	e Cys	s rei	3 TT(60 60	r Va.	l Me	t Va	t gta l Val	
65		_			70		. 1101	· FIC	ASI	75	L Ty:	r Th	r Ly:	3 As:	t aaa n Lys 80	
caa Gln	Caç Glr	g ata n Ile	a gto e Val	att . Ile 85	ttt Phe	acc Thr	tto Phe	tgg Trp	aca Thr	ttt Phe	gco Ala	c aad a Asr	tao Tyi	tta Len 95	a aat 1 Asn	288
			100)	9,5	100	, voi	105	Pne	: Tyr	Phe	e Leu	Lys 110	; Il∈)	gcc Ala	336
		115	,				120	112	пеп	г тАг	Trp	Lys 125	Ile	Asp	atg Met	384
gtg Val	gtg Val 130	r cac His	tgg Trp	atc Ile	ctg Leu	ctg Leu 135	gga Gly	tgc Cys	ttt Phe	gcc Ala	att Ile 140	Ser	ttg Leu	tto Lev	gtc Val	432
145				٠.	150	val	лец	ser	Cys	155	Tyr	Arg	Phe	His	gca Ala 160	480
		-		165		******	116	THE	170	Met	Phe	His	Val	Ser 175		528
		-	180				1111	185	Pne	Asn	Leu	ttt Phe	Ala 190	Ile	Val	576
		195			Lou		200	FIIE	rne	ьeu	Leu	gta Val 205	Arg	Ser	Leu	624
	210			-3-		215	пуs	пец	Tyr	Ala	220	ggc Gly	Ser	Arg	Asp	672
ecc Pro 225					230	val	arg	ATA	тте	ьуs 235	Thr	Met	Thr	Ser	Phe 240	720
atc Ile				245		- ,, -	- 7-	TT6	250	ser	TIE	Leu	Met	Thr 255	Phe	768
agc : Ser !			260		-1-	-1-	Lys	265	мта	vaı	GIU	Phe	Gly 270	Glu	Ile	816
gca (gca Ala	att Ile 275	ctc Leu	yac Xaa	ccc Pro	LCU	ggt Gly 280	cac :	tca Ser	ctt Leu	Ile	tta Leu 285	att Ile	gtt Val	tta Leu	864

	20/	44 /	
aat aat aaa ctg agg Asn Asn Lys Leu Arg 290	cag aca ttt gtc ag Gln Thr Phe Val Ar 295	a atg ctg aca tgt ag g Met Leu Thr Cys Ar 300	a aaa 912 g Lys
att gcc tgc rtg ata Ile Ala Cys Xaa Ile 305	tga		930
<210> 12 <211> 309 <212> PRT <213> Homo sapiens			
<220> <221> misc_feature <222> (166)(166) <223> The 'Xaa' at :	location 166 stand:	s for Gly, or Arg.	
<220> <221> misc_feature <222> (183)(183) <223> The 'Xaa' at 1	location 183 stands	s for Leu.	
<220> <221> misc_feature <222> (277)(277) <223> The 'Xaa' at 1	location 277 stands	s for His, or Tyr.	
<220> <221> misc_feature <222> (308)(308) <223> The 'Xaa' at 1	Location 308 stands	for Val, or Met.	
<400> 12			
Met Phe Ser Pro Ala <i>P</i> 1 5	Asp Asn Ile Phe Ile 10	Ile Leu Ile Thr Gl	y Glu
Phe Ile Leu Gly Ile I 20	eu Gly Asn Gly Tyr 25	Ile Ala Leu Val Ası 30	Trp
Ile Asp Trp Ile Lys I 35	Lys Lys Ile Ser 40	Thr Val Asp Tyr Ile 45	e Leu
Thr Asn Leu Val Ile A	ala Arg Ile Cys Leu · 55	Ile Ser Val Met Val	. Val
Asn Gly Ile Val Ile V 65 7	al Leu Asn Pro Asp 0	Val Tyr Thr Lys Asr 75	Lys 80
Gln Gln Ile Val Ile F 85	the Thr Phe Trp Thr 90	Phe Ala Asn Tyr Leu	ı Asn

Met Trp Ile Thr Thr Cys Leu Asn Val Phe Tyr Phe Leu Lys Ile Ala

100 105 110

Ser Ser Ser His Pro Leu Phe Leu Trp Leu Lys Trp Lys Ile Asp Met 115 120 125

Val Val His Trp Ile Leu Leu Gly Cys Phe Ala Ile Ser Leu Leu Val 130 140

Ser Leu Ile Ala Ala Ile Val Leu Ser Cys Asp Tyr Arg Phe His Ala 145 150 155 160

Ile Ala Lys His Lys Xaa Asn Ile Thr Glu Met Phe His Val Ser Lys 165 170 175

Ile Pro Tyr Phe Glu Pro Xaa Thr Leu Phe Asn Leu Phe Ala Ile Val

Pro Phe Ile Val Ser Leu Ile Ser Phe Phe Leu Leu Val Arg Ser Leu 195 200 205

Trp Arg His Thr Lys Gln Ile Lys Leu Tyr Ala Thr Gly Ser Arg Asp 210 215 220

Pro Ser Thr Glu Val His Val Arg Ala Ile Lys Thr Met Thr Ser Phe 225 230 235 240

Ile Phe Phe Phe Phe Leu Tyr Tyr Ile Ser Ser Ile Leu Met Thr Phe 245 250 255

Ser Tyr Leu Met Thr Lys Tyr Lys Leu Ala Val Glu Phe Gly Glu Ile 260 265 270

Ala Ala Ile Leu Xaa Pro Leu Gly His Ser Leu Ile Leu Ile Val Leu 275 280 285

Asn Asn Lys Leu Arg Gln Thr Phe Val Arg Met Leu Thr Cys Arg Lys 290 295 300

Ile Ala Cys Xaa Ile 305

<210> 13

<211> 939

<212> DNA

<213> Homo sapiens

	21>	CDS (1).	. (93	39)													
<22	?1> ?2>	vari (201 m is	.) ((201)													
<22	:1> :2>	vari (450 w is))(450)													
<22	1> 2>	vari (560 y is) (560)													
	1> 2>	vari (867 k is)(867)													
<22	1> 2> ,	vari (880 m is) (880)													
<40 atg Met 1	cca	13 agt Ser	gca Ala	ata Ile 5	gag Glu	gca Ala	ata Ile	tat Tyr	att Ile 10	att Ile	tta Leu	att Ile	gct Ala	ggt Gly 15	gaa Glu	ı	48
ttg Leu	acc Thr	ata Ile	ggg Gly 20	att Ile	tgg Trp	gga Gly	aat Asn	gga Gly 25	ttc Phe	att Ile	gta Val	cta Leu	gtt Val 30	aac Asn	tgc Cys		96
att Ile	gac Asp	tgg Trp 35	ctc Leu	aaa Lys	aga Arg	aga Arg	gat Asp 40	att Ile	tcc Ser	ttg Leu	att Ile	gac Asp 45	atc Ile	atc Ile	ctg Leu		144
atc Ile	agc Ser 50	ttg Leu	gcc Ala	atc Ile	tcc Ser	aga Arg 55	atc Ile	tgt Cys	ctg Leu	çtg Leu	tgt Cys 60	gta Val	ata Ile	tca Ser	tta Leu		192
gat Asp 65	ggc Gly	ttm Xaa	ttt Phe	atg Met	ctg Leu 70	ctc Leu	ttt Phe	cca Pro	ggt Gly	aca Thr 75	tat Tyr	ggc Gly	aat Asn	agc Ser	gtg Val 80		240
cta Leu	gta Val	agc Ser	att Ile	gtg Val 85	aat Asn	gtt Val	gtc Val	tgg Trp	aca Thr 90	ttt Phe	gcc Ala	aat Asn	aat Asn	tca Ser 95	agt Ser		288
ctc Leu	tgg Trp	ttt Phe	act Thr 100	tct Ser	tgc Cys	ctc Leu	agt Ser	atc Ile 105	ttc Phe	tat Tyr	tta Leu	ctc Leu	aag Lys 110	ata Ile	gcc Ala		336
aat Asn	ata Ile	tcg Ser 115	cac His	cca Pro	ttt Phe	ttc Phe	ttc Phe 120	tgg Trp	ctg Leu	aag Lys	cta Leu	aag Lys 125	atc Ile	aac Asn	aag Lys		384

gtc Val	atg Met 130	ctt Leu	gcg Ala	att Ile	ctt Leu	ctg Leu 135	GIA	tco Ser	ttt Phe	ctt Leu	ato Ile	Ser	tta Leu	att Ile	att : Ile	432
145			-		150	·.op	Mec	ırp	ığı	155	Leu	Phe	Lys	Val	agt Ser 160	480
				165	• • • •	ııp	цуз	File	170	vaı	Ser		Ile	Pro 175	Gly	528
		_	180			Jou	11.011	185	GIŢ	лаа	Met	gtt Val	Pro 190	Phe	Ile	576
	_	195			2110	1116	200	ьeu	ьеи	Phe	Ser	cta Leu 205	Val	Arg	His	624
	210			9	20u	215	ATA	IIIE	стА	Pne	Arg 220	gac Asp	Pro	Ser	Thr	672
gag Glu 225				9	230	776	цуз	нта	vaı	235	Ile	Phe	Leu	Leu	Leu 240	720
ctc Leu				245		,	1116	neu	250	Met	Thr	Ser	Ser	Ala 255	Leu	768
att Ile			260	-,0	110 G	Val	пец	265	тте	GIÀ	Asp	Ile	Val 270	Thr	Val	816
att : Ile :		275				DCL	280	116	ьец	TTE	Met	Gly 285	Asn	Ser	Lys	864
ttk a Xaa A	290					295	Mec	neu .	aga Arg	Pne	gtg Val 300	aag Lys	tgt Cys	ttc Phe	ctt Leu	912
aga a Arg A 305	aga Arg	aga Arg :	aag Lys	Pro	ttt Phe 310	gtt Val	cca Pro	tag								939
<210><211><211><212><213>	3: • Pl	4 12 RT omo s	sapi	∍ns												
<220> <221> <222> <223>	mi (6	isc_i 57)	(67))	locat	ion	67 .	stand	ds f	or Ta	211	or Ph				
<220>									(116	ou, (OT BU	ie.			

<221> misc_feature <222> (150)..(150)<223> The 'Xaa' at location 150 stands for Glu, or Asp. <220> <221> misc_feature <222> (187)...(187)<223> The 'Xaa' at location 187 stands for Ala, or Val. <220> <221> misc_feature <222> (289)..(289)<223> The 'Xaa' at location 289 stands for Leu, or Phe. <220> <221> misc_feature <222> (294)..(294) <223> The 'Xaa' at location 294 stands for Met, or Leu. <400> 14 Met Pro Ser Ala Ile Glu Ala Ile Tyr Ile Ile Leu Ile Ala Gly Glu Leu Thr Ile Gly Ile Trp Gly Asn Gly Phe Ile Val Leu Val Asn Cys Ile Asp Trp Leu Lys Arg Arg Asp Ile Ser Leu Ile Asp Ile Ile Leu Ile Ser Leu Ala Ile Ser Arg Ile Cys Leu Leu Cys Val Ile Ser Leu Asp Gly Xaa Phe Met Leu Leu Phe Pro Gly Thr Tyr Gly Asn Ser Val Leu Val Ser Ile Val Asn Val Val Trp Thr Phe Ala Asn Asn Ser Ser 85 Leu Trp Phe Thr Ser Cys Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn Ile Ser His Pro Phe Phe Phe Trp Leu Lys Leu Lys Ile Asn Lys 120 Val Met Leu Ala Ile Leu Leu Gly Ser Phe Leu Ile Ser Leu Ile Ile

Ser Val Pro Lys Asn Xaa Asp Met Trp Tyr His Leu Phe Lys Val Ser 150 155

140

135

His Glu Glu Asn Ile Thr Trp Lys Phe Lys Val Ser Lys Ile Pro Gly 165

Thr Phe Lys Gln Leu Thr Leu Asn Leu Gly Xaa Met Val Pro Phe Ile 180 .

Leu Cys Leu Ile Ser Phe Phe Leu Leu Leu Phe Ser Leu Val Arg His 195 200 205

Thr Lys Gln Ile Arg Leu His Ala Thr Gly Phe Arg Asp Pro Ser Thr 210 220

Glu Ala His Met Arg Ala Ile Lys Ala Val Ile Ile Phe Leu Leu 240

Leu Ile Val Tyr Tyr Pro Val Phe Leu Val Met Thr Ser Ser Ala Leu 250 255

Ile Pro Gln Gly Lys Leu Val Leu Met Ile Gly Asp Ile Val Thr Val 260 265 270

Ile Phe Pro Ser Ser His Ser Phe Ile Leu Ile Met Gly Asn Ser Lys 275 280 285

Xaa Arg Glu Ala Phe Xaa Lys Met Leu Arg Phe Val Lys Cys Phe Leu 290 295 300

Arg Arg Arg Lys Pro Phe Val Pro 305

<210> 15

<211> 924

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(924)

<220>

<221> variation

<222> (80)..(80)

<223> r is g or a

<220>

<221> variation

<222> (467)..(467)

<223> y is c or t

<220>

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	<22	2>	(521	atio .)(521)												
	<22	1> 2>	(564	atio ()((a o	564)												
1	<22	1> 2>	(627	atio)(a o	627)												
	<40	0>	15														
	atg Met 1	cta Leu	cgt Arg	gta Val	gtg Val 5	gaa Glu	ggc	atc	ttc Phe	att Ile 10	ttt Phe	gtt Val	gta Val	gtt Val	agt Ser 15	gag Glu	48
	tca Ser	gtg Val	ttt Phe	50 GJ A āāā	gtt Val	ttg Leu	GJ A aaa	aat Asn	gga Gly 25	ttt Phe	att Ile	gga Gly	ctt Leu	gta Val 30	aac Asn	tgc Cys	96
	att Ile	gac Asp	tgt Cys 35	gcc Ala	aag Lys	aat Asn	aag Lys	ttr Xaa 40	tct Ser	acg Thr	att Ile	ggc	ttt Phe 45	att Ile	ctc Leu	acc Thr	144
	GJÅ aac	tta Leu 50	gct Ala	att Ile	tca Ser	aga Arg	att Ile 55	ttt Phe	ctg Leu	ata Ile	tgg Trp	ata Ile 60	ata Ile	att Ile	aca Thr	gat Asp	192
	gga Gly 65	ttt Phe	ata Ile	cag Gln	ata Ile	ttc Phe 70	tct Ser	cca Pro	aat Asn	ata Ile	tat Tyr 75	gcc Ala	tcc Ser	ggt Gly	aac Asn	cta Leu 80	240
	att Ile	gaa Glu	tat Tyr	att Ile	agt Ser 85	tac Tyr	ttt Phe	tgg Trp	gta Val	att Ile 90	ggt Gly	aat Asn	caa Gln	tca Ser	agt Ser 95	atg Met	288
	tgg Trp	ttt Phe	gcc Ala	acc Thr 100	agc Ser	ctc Leu	agc Ser	atc Ile	ttc Phe 105	tat Tyr	ttc Phe	ctg Leu	aag Lys	ata Ile 110	gca Ala	aat Asn	336
	ttt Phe	tcc Ser	aac Asn 115	tac Tyr	ata Ile	ttt Phe	ctc Leu	tgg Trp 120	ttg Leu	aag Lys	agc Ser	aga Arg	aca Thr 125	aat Asn	atg Met	gtt Val	384
	ctt Leu	ccc Pro 130	ttc Phe	atg Met	ata Ile	gta Val	ttc Phe 135	tta Leu	ctt Leu	att Ile	tca Ser	tcg Ser 140	tta Leu	ctt Leu	aat Asn	ttt Phe	432
	gca Ala 145	tac Tyr	att Ile	gcg Ala	aag Lys	att Ile 150	ctt Leu	aat Asn	gat Asp	tat Tyr	aaa Lys 155	ayg Xaa	aag Lys	aat Asn	gac Asp	aca Thr 160	480
	gtc Val	tgg Trp	gat Asp	ctc Leu	aac Asn 165	atg Met	tat Tyr	aaa Lys	agt Ser	gaa Glu 170	tac Tyr	ttt Phe	att Ile	ama Xaa	cag Gln 175		528
	ttg Leu	cta Leu	aat Asn	ctg Leu	gga Gly	gtc Val	att Ile	ttc Phe	ttc Phe	ttt Phe	aca Thr	ctr Xaa	tcc Ser	cta Leu		aca Thr	576

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	180	185	190	
tgt att ttt Cys Ile Phe 195	tta atc att tcc Leu Ile Ile Ser	ctt tgg aga Leu Trp Arg 200	cac aac agg cag His Asn Arg Gln 205	atg caa 624 Met Gln
tcr aat gtg Xaa Asn Val 210	aca gga ttg aga Thr Gly Leu Arg 215	Asp Ser Asn	aca gaa gct cat Thr Glu Ala His 220	gtg aag 672 Val Lys
gca atg aaa Ala Met Lys 225	gtt ttg ata tct Val Leu Ile Ser 230	Phe Ile Ile	ctc ttt atc ttg Leu Phe Ile Leu 235	tat ttt 720 Tyr Phe 240
ata ggc atg Ile Gly Met	gcc ata gaa ata Ala Ile Glu Ile 245	tca tgt ttt Ser Cys Phe 250	act gtg cga gaa Thr Val Arg Glu	aac aaa 768 Asn Lys 255
ctg ctg ctt Leu Leu Leu	atg ttt gga atg Met Phe Gly Met 260	aca acc aca Thr Thr Thr 265	gcc atc tat ccc Ala Ile Tyr Pro 270	tgg ggt 816 Trp Gly
cac tca ttt His Ser Phe 275	Ile Leu Ile Leu	gga aac agc Gly Asn Ser 280	aag cta aag caa Lys Leu Lys Gln 285	gcc tct 864 Ala Ser
ttg agg gta Leu Arg Val 290	ctg cag caa ttg Leu Gln Gln Leu 295	Lys Cys Cys	gag aaa agg aaa Glu Lys Arg Lys 300	aat ctc 912 Asn Leu
aga gtc aca Arg Val Thr 305				924
<210> 16 <211> 307 <212> PRT <213> Homo	sapiens			
<220> <221> misc <222> (40) <223> The	_feature (40) 'Xaa' at locatio	on 40 stands i	for Leu.	
<220> <221> misc <222> (156 <223> The	<u>)</u> (156)	on 156 stands	for Thr, or Met.	
<220> <221> misc <222> (174 <223> The	7(174)	on 174 stands	for Lys, or Thr	
<222> (188	:_feature }(188) 'Xaa' at locatio	on 188 stands	for Leu.	

<220>

- <221> misc_feature <222> (209)..(209) <223> The 'Xaa' at location 209 stands for Ser.

<400> 16

- Met Leu Arg Val Val Glu Gly Ile Phe Ile Phe Val Val Ser Glu 10
- Ser Val Phe Gly Val Leu Gly Asn Gly Phe Ile Gly Leu Val Asn Cys 20 25
- Ile Asp Cys Ala Lys Asn Lys Xaa Ser Thr Ile Gly Phe Ile Leu Thr 35 40
- Gly Leu Ala Ile Ser Arg Ile Phe Leu Ile Trp Ile Ile Ile Thr Asp 50 55
- Gly Phe Ile Gln Ile Phe Ser Pro Asn Ile Tyr Ala Ser Gly Asn Leu 65 70
- Ile Glu Tyr Ile Ser Tyr Phe Trp Val Ile Gly Asn Gln Ser Ser Met 85
- Trp Phe Ala Thr Ser Leu Ser Ile Phe Tyr Phe Leu Lys Ile Ala Asn 100
- Phe Ser Asn Tyr Ile Phe Leu Trp Leu Lys Ser Arg Thr Asn Met Val 115
- Leu Pro Phe Met Ile Val Phe Leu Leu Ile Ser Ser Leu Leu Asn Phe 130 135
- Ala Tyr Ile Ala Lys Ile Leu Asn Asp Tyr Lys Xaa Lys Asn Asp Thr 145 150
- Val Trp Asp Leu Asn Met Tyr Lys Ser Glu Tyr Phe Ile Xaa Gln Ile 165 170
- Leu Leu Asn Leu Gly Val Ile Phe Phe Phe Thr Xaa Ser Leu Ile Thr 180 185
- Cys Ile Phe Leu Ile Ile Ser Leu Trp Arg His Asn Arg Gln Met Gln 195 200
- Xaa Asn Val Thr Gly Leu Arg Asp Ser Asn Thr Glu Ala His Val Lys 210 215

Ala 225	Met	Lys	Val	Leu	Ile 230	Ser	Phe	Ile	Ile	Leu 235	Phe	Ile	Leu	Туг	Phe 240	
Ile	Gly	Met	Ala	Ile 245	Glu	Ile	Ser	Cys	Phe 250	Thr	Val	Arg	Glu	Asn 255	Lys	
Leu	Leu	Leu	Met 260	Phe	Gly	Met	Thr	Thr 265	Thr	Ala	Ile	Tyr	Pro 270	Trp	Gly	
His	Ser	Phe 275	Ile	Leu	Ile	Leu	Gly 280	Asn	Ser	Lys	Leu	Lys 285	Gln	Ala	Ser	
Leu	Arg 290	Val	Leu	Gln	Gln	Leu 295	Lys	Cys	Cys	Glu	Lys 300	Arg	Lys	Asn	Leu	
Arg 305	Val	Thr														
<21 <21 <21 <21	1> 2>	17 912 DNA Homo	sapi	iens												
<22 <22 <22	1> (CDS (1).	. (912	2)												
<22 <22 <22 <22	1>	varia (776) r is	(7	776)												
<40 atg Met 1	0> ; gaa Glu	17 agt Ser	gcc Ala	ctg Leu 5	ccg Pro	agt Ser	atc Ile	ttc Phe	act Thr 10	ctt Leu	gta Val	ata Ile	att Ile	gca Ala 15	gaa Glu	48
ttc Phe	ata Ile	att Ile	ggg Gly 20	aat Asn	ttg Leu	agc Ser	aat Asn	gga Gly 25	ttt Phe	ata Ile	gta Val	ctg Leu	atc Ile 30	aac Asn	tgc Cys	96
att Ile	gac Asp	tgg Trp 35	gtc Val	agt Ser	aaa Lys	aga Arg	gag Glu 40	ctg Leu	tcc Ser	tca Ser	gtc Val	gat Asp 45	aaa Lys	ctc Leu	ctc Leu	144
att Ile	atc Ile 50	ttg Leu	gca Ala	atc Ile	tcc Ser	aga Arg 55	att Ile	ggg	ctg Leu	atc Ile	tgg Trp 60	gaa Glu	ata Ile	tta Leu	gta Val	192
agt Ser 65	tgg Trp	ttt Phe	tta Leu	gct Ala	ctg Leu 70	cat His	tat Tyr	cta Leu	gcc Ala	ata Ile 75	ttt Phe	gtg Val	tct Ser	gga Gly	aca Thr 80	240

										• •						
				85			. 061	· III	90	∍ va.	L Se:	r Ası	n His	95 Ph	c aat e Asn	
		-	100)		2110	. Det	105	Pne	туг	: Le	u Leu	1 Lys 11(s Ile)	a gcg e Ala	336
		115	5				120) TAL	ьес	гту	Trp	2 Arc 125	y Val	. Asr	aaa Lys	384
	130)				135	Q ₁ y	THE	теп	. val	140	e Leu)	≀ Ph∈	Le:	aat Asn	432
14	5				150	111.3	116	тÀ2	Asp	155	Leu	ı Asp	Arg	Tyr	gaa Glu 160	480
				165		- 110	per	Mec	170	Asp	Phe	Glu	Thr	Phe 175		528
gte Va	g tcg l Ser	gtc Val	aaa Lys 180	ttc Phe	act Thr	atg Met	act Thr	atg Met 185	ttc Phe	agt Ser	cta Leu	aca Thr	cca Pro 190	ttt Phe	act Thr	576
gto Val	g gcc L Ala	ttc Phe 195	atc Ile	tct Ser	ttt Phe	ctc Leu	ctg Leu 200	tta Leu	att Ile	ttc Phe	tcc Ser	ctg Leu 205	cag Gln	aaa Lys	cat His	624
. cto Leu	cag Gln 210	aaa Lys	atg Met	caa Gln	ctc Leu	aat Asn 215	tac Tyr	aaa Lys	gga Gly	cac His	aga Arg 220	gac Asp	ccc Pro	agg Arg	acc Thr	672
aag Lys 225	gtc Val	cat His	aca Thr	aat Asn	gcc Ala 230	ttg Leu	aaa Lys	att Ile	gtg Val	atc Ile 235	tca Ser	ttc Phe	ctt Leu	tta Leu	ttc Phe 240	720
tat Tyr	gct Ala	agt Ser	ttc Phe	ttt Phe 245	cta Leu	tgt Cys	gtt Val	пеп	ata Ile 250	tca Ser	tgg Trp	att Ile	tct Ser	gag Glu 255	ctg Leu	768
tat Tyr	cag Gln	arc Xaa	aca Thr 260	gtg Val	atc Ile	tac Tyr	atg Met	ctt Leu 265	tgt Cys	gag Glu	acg Thr	att Ile	gga Gly 270	gtc Val	ttc Phe	816
tct Ser	cct Pro	tca Ser 275	agc Ser	cac His	tcc Ser	LIIC .	ctt Leu 280	ctg Leu	att Ile	cta Leu	gga Gly	aac Asn 285	gct Ala	aag Lys	tta Leu	864
aga Arg	cag Gln 290	gcc Ala	ttt Phe	ctt Leu		gtg (Val 2 295	gca Ala	gct Ala	aag Lys	νат	tgg Trp 300	gct Ala	aaa Lys	cga Arg	tga	912

<210> 18 <211> 303

<212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<222> (259)..(259)

<223> The 'Xaa' at location 259 stands for Ser, or Asn.

<400> 18

Met Glu Ser Ala Leu Pro Ser Ile Phe Thr Leu Val Ile Ile Ala Glu 1 5 10 15

Phe Ile Ile Gly Asn Leu Ser Asn Gly Phe Ile Val Leu Ile Asn Cys 20 25 30

Ile Asp Trp Val Ser Lys Arg Glu Leu Ser Ser Val Asp Lys Leu Leu 35 40 45

Ile Ile Leu Ala Ile Ser Arg Ile Gly Leu Ile Trp Glu Ile Leu Val 50 55 60

Ser Trp Phe Leu Ala Leu His Tyr Leu Ala Ile Phe Val Ser Gly Thr 70 75 80

Gly Leu Arg Ile Met Ile Phe Ser Trp Ile Val Ser Asn His Phe Asn 85 90 95

Leu Trp Leu Ala Thr Ile Phe Ser Ile Phe Tyr Leu Leu Lys Ile Ala 100 105 110

Ser Phe Ser Ser Pro Ala Phe Leu Tyr Leu Lys Trp Arg Val Asn Lys 115 120 125

Val Ile Leu Met Ile Leu Leu Gly Thr Leu Val Phe Leu Phe Leu Asn 130 135 140

Leu Ile Gln Ile Asn Met His Ile Lys Asp Trp Leu Asp Arg Tyr Glu 145 150 155 160

Arg Asn Thr Thr Trp Asn Phe Ser Met Ser Asp Phe Glu Thr Phe Ser 165 170 175

Val Ser Val Lys Phe Thr Met Thr Met Phe Ser Leu Thr Pro Phe Thr 180 185 190

Val Ala Phe Ile Ser Phe Leu Leu Leu Ile Phe Ser Leu Gln Lys His 195 200 205

Leu Gln Lys Met Gln Leu Asn Tyr Lys Gly His Arg Asp Pro Arg Thr

01.0		
210	215	220

210	215		220	
Lys Val His Th 225	r Asn Ala Leu L 230	ys Ile Val Ile 235	Ser Phe Leu Le	l Phe 240
Tyr Ala Ser Ph	e Phe Leu Cys V 245	al Leu Ile Ser 250	Trp Ile Ser Glu 255	
Tyr Gln Xaa Th: 260	r Val Ile Tyr M)	et Leu Cys Glu 265	Thr Ile Gly Val 270	. Phe
Ser Pro Ser Ser 275	His Ser Phe Lo	eu Leu Ile Leu (80	Gly Asn Ala Lys 285	Leu
Arg Gln Ala Phe 290	Leu Leu Val A 295	la Ala Lys Val	Irp Ala Lys Arg 300	
<210> 19 <211> 954 <212> DNA <213> Homo sap	iens			
<220> <221> CDS <222> (1)(95				
<220> <221> variation <222> (256)(<223> r is a on	256)			
<400> 19				
atg ggt ggt gtc Met Gly Gly Val 1	5	10	al Leu Ile Val 15	Glu
ttt ata att gga Phe Ile Ile Gly 20	Lieu Lou Gry Ra	25	la Leu Val Asn 30	Суѕ
att gac tgg gtc Ile Asp Trp Val 35	40	s ile ser ser va	ASP Arg Ile	Leu
act gct ttg gca Thr Ala Leu Ala 50	55	60 per neu var	rp Leu Ile Phe ()	Gly
agc tgg tgt gtg Ser Trp Cys Val 65	tct gtg ttt ttc Ser Val Phe Phe 70	c cca gct tta tt Pro Ala Leu Ph 75	e Ala Thr Glu p	aaa 240 Lys 30
atg ttc aga atg Met Phe Arg Met	ctt rct aat atc Leu Xaa Asn Ile	tgg aca gtg at Trp Thr Val Il	c aat cat ttt a e Asn His Phe S	agt 288 Ser

				85					90					95		
			100)	. 013	, пес	, GT	105	Pne	э туг	? Phe	e Leu	Lys 110	: Ile	a gcc e Ala	
aat Asn	ttt Phe	Ser 115		tct Ser	att : Ile	ttt Phe	cto Lev 120	TAT	cta Leu	aag Lys	ı tgo Trp	agr Arg 125	r Val	aaa Lys	a aag 5 Lys	384
gtg Val	gtt Val 130		gtg Val	ctg Leu	ctt Leu	ctt Leu 135	vaı	act Thr	tc <u>c</u> Ser	gto Val	tto Phe	: Leu	ttt Phe	tta Lev	aat Asn	432
att Ile 145	gca Ala	ctg Leu	ata Ile	aac Asn	atc Ile 150	1172	ata Ile	aat Asn	gcc Ala	agt Ser 155	Ile	aat Asn	gga Gly	tac Tyr	aga Arg 160	480
aga Arg	aac Asn	aag Lys	act Thr	tgc Cys 165	Der	tct Ser	gat Asp	tca Ser	agt Ser 170	Asn	ttt Phe	aca Thr	cga Arg	ttt Phe 175	tcc Ser	528
agt Ser	ctt Leu	att Ile	gta Val 180	tta Leu	acc Thr	agc Ser	act Thr	gtg Val 185	ttc Phe	att Ile	ttc Phe	ata Ile	ccc Pro 190	ttt Phe	act Thr	576
ttg Leu	tcc Ser	ctg Leu 195	gca Ala	atg Met	ttt Phe	ctt Leu	ctc Leu 200	ctc Leu	atc Ile	ttc Phe	tcc Ser	atg Met 205	tgg Trp	aaa Lys	cat His	624
cgc Arg	aag Lys 210	aag Lys	atg Met	cag Gln	cac His	act Thr 215	gtc Val	aaa Lys	ata Ile	tcc Ser	gga Gly 220	gac Asp	gcc Ala	agc Ser	acc Thr	672
aaa Lys 225	gcc Ala	cac His	aga Arg	gga Gly	gtt Val 230	aaa Lys	agt Ser	gtg Val	atc Ile	act Thr 235	ttc Phe	ttc Phe	cta Leu	ctc Leu	tat Tyr 240	720
gcc Ala	att Ile	ttc Phe	tct Ser	ctg Leu 245	tct Ser	ttt Phe	ttc Phe	ata Ile	tca Ser 250	val	tgg Trp	acc Thr	tct Ser	gaa Glu 255	Arg	768
ttg Leu	gag Glu	gaa Glu	aat Asn 260	cta Leu	att Ile	att Ile	ctt Leu	tcc Ser 265	cag Gln	gtg Val	atg Met	gga Gly	atg Met 270	gct Ala	tat Tyr	816
cct Pro	tca Ser	tgt Cys 275	cac His	tca Ser	tgt Cys	gtt Val	ctg Leu 280	att Ile	ctt Leu	gga Gly	aac Asn	aag Lys 285	aag Lys	ctg Leu	aga Arg	864
cag Gln	gcc Ala 290	tct Ser	ctg Leu	tca Ser	gtg Val	cta Leu 295	ctg Leu	tgg Trp	ctg Leu	agg Arg	tac Tyr 300	atg Met	ttc Phe	aaa Lys	gat Asp	912
Gly 305	gag Glu	ccc Pro	tca Ser	ggt Gly	cac His 310	aaa Lys	gaa Glu	ttt Phe	aga Arg	gaa Glu 315	tca Ser	tct Ser	tga			954

<210> 20 <211> 317 <212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<222> (86).. (86)

<223> The 'Xaa' at location 86 stands for Ala, or Thr.

<400> 20

Met Gly Gly Val Ile Lys Ser Ile Phe Thr Phe Val Leu Ile Val Glu 1 5 10 15

Phe Ile Ile Gly Asn Leu Gly Asn Ser Phe Ile Ala Leu Val Asn Cys 20 25 30

Ile Asp Trp Val Lys Gly Arg Lys Ile Ser Ser Val Asp Arg Ile Leu 35 40 45

Thr Ala Leu Ala Ile Ser Arg Ile Ser Leu Val Trp Leu Ile Phe Gly 50 60

Ser Trp Cys Val Ser Val Phe Phe Pro Ala Leu Phe Ala Thr Glu Lys 70 75 80

Met Phe Arg Met Leu Xaa Asn Ile Trp Thr Val Ile Asn His Phe Ser 85 90 95

Val Trp Leu Ala Thr Gly Leu Gly Thr Phe Tyr Phe Leu Lys Ile Ala 100 105 110

Asn Phe Ser Asn Ser Ile Phe Leu Tyr Leu Lys Trp Arg Val Lys Lys 115 120 125

Val Val Leu Val Leu Leu Leu Val Thr Ser Val Phe Leu Phe Leu Asn 130 135 140

Ile Ala Leu Ile Asn Ile His Ile Asn Ala Ser Ile Asn Gly Tyr Arg 145 150 155 160

Arg Asn Lys Thr Cys Ser Ser Asp Ser Ser Asn Phe Thr Arg Phe Ser 165

Ser Leu Ile Val Leu Thr Ser Thr Val Phe Ile Phe Ile Pro Phe Thr 180 185 190

Leu Ser Leu Ala Met Phe Leu Leu Leu Ile Phe Ser Met Trp Lys His 195 200 205

Arg Lys Lys Met Gln His Thr Val Lys Ile Ser Gly Asp Ala Ser Thr 210 215 220

Lys Ala His Arg Gly Val Lys Ser Val Ile Thr Phe Phe Leu Leu Tyr 230 235 240

Ala Ile Phe Ser Leu Ser Phe Phe, Ile Ser Val Trp Thr Ser Glu Arg 245 250 255

Leu Glu Glu Asn Leu Ile Ile Leu Ser Gln Val Met Gly Met Ala Tyr 260 265 270

Pro Ser Cys His Ser Cys Val Leu Ile Leu Gly Asn Lys Lys Leu Arg 275 280 285

Gln Ala Ser Leu Ser Val Leu Leu Trp Leu Arg Tyr Met Phe Lys Asp 290 295 300

Gly Glu Pro Ser Gly His Lys Glu Phe Arg Glu Ser Ser 305 310 315

<210> 21

<211> 876

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(876)

<220>

<221> variation

<222> (300)..(300)

<223> y is t or c

<220>

<221> variation

<222> (301)..(301)

<223> r is a or g

<220>

<221> variation

<222> (462)..(462)

<223> y is t or c

<220>

<221> variation

<222> (516)..(516)

<223> k is g or t

<220>

<221> variation

36/447	1 C 1/ US2004/0194
<222> (665)(665) <223> r is a or g	
<220> <221> variation <222> (846)(846) <223> r is a or g	
<pre><400> 21 atg ata ccc atc caa ctc act gtc ttc ttc atg atc atc tat gtg Met Ile Pro Ile Gln Leu Thr Val Phe Phe Met Ile Ile Tyr Val 1</pre>	ctt 48 Leu
gag tcc ttg aca att att gtg cag agc agc cta att gtt gca gtg Glu Ser Leu Thr Ile Ile Val Gln Ser Ser Leu Ile Val Ala Val 20 25 30	Leu
ggc aga gaa tgg ctg caa gtc aga agg ctg atg cct gtg gac atg Gly Arg Glu Trp Leu Gln Val Arg Arg Leu Met Pro Val Asp Met 35 40 45	Ile
ctc atc agc ctg ggc atc tct cgc ttc tgt cta cag tgg gca tca a Leu Ile Ser Leu Gly Ile Ser Arg Phe Cys Leu Gln Trp Ala Ser N 50 55 60	Met
ctg aac aat ttt tgc tcc tat ttt aat ttg aat tat gta ctt tgc a Leu Asn Asn Phe Cys Ser Tyr Phe Asn Leu Asn Tyr Val Leu Cys A 65 70 75	lsn Ro
tta aca atc acc tgg gaa ttt ttt aat atc ctt aca ttc tgg tta a Leu Thr Ile Thr Trp Glu Phe Phe Asn Ile Leu Thr Phe Trp Leu A 85 90	ac 288 sn
agc ttg ctt acy rts ttc tac tgc atc aag gtc tct tct ttc acc c Ser Leu Leu Xaa Xaa Phe Tyr Cys Ile Lys Val Ser Ser Phe Thr H. 105	is
Cac atc ttt ctc tgg ctg agg tgg aga att ttg agg ttg ttt ccc tg His Ile Phe Leu Trp Leu Arg Trp Arg Ile Leu Arg Leu Phe Pro Tr 115	rp
ata tta ctg ggt tct ctg atg att act tgt gta aca atc atc cct tc Ile Leu Leu Gly Ser Leu Met Ile Thr Cys Val Thr Ile Ile Pro Se 130 135	er
gct att ggg aat tac att caa att cag yta ctc acc atg gag cat ct Ala Ile Gly Asn Tyr Ile Gln Ile Gln Xaa Leu Thr Met Glu His Le 150 155 16	eu So
CCa aga aac agc act gta act gac aaa ctt gaa aak ttt cat cag ta Pro Arg Asn Ser Thr Val Thr Asp Lys Leu Glu Xaa Phe His Gln Ty 175	r
Cag ttc cag gct cat aca gtt gca ttg gtt att cct ttc atc ctg ttc Gln Phe Gln Ala His Thr Val Ala Leu Val Ile Pro Phe Ile Leu Phe 180 185 190	е
ctg gcc tcc acc atc ttt ctc atg gca tca ctg acc aag cag ata caa Leu Ala Ser Thr Ile Phe Leu Met Ala Ser Leu Thr Lys Gln Ile Glr 195 200 205	a 624 n

	37/447														
cat ca His Hi 21	s Ser	act Thr	ggt Gly	cac His	tgc Cys 215	aat Asn	cca Pro	agc Ser	atg Met	aaa Lys 220	gcg Ala	crc Xaa	ttc Phe	act Thr	672
gcc ct Ala Le 225	g agg u Arg	tcc Ser	ctt Leu	gcc Ala 230	gtc Val	tta Leu	ttt Phe	att Ile	gtg Val 235	ttt Phe	acc Thr	tct Ser	tac Tyr	ttt Phe 240	720
cta ac Leu Th	c ata r Ile	ctc Leu	atc Ile 245	acc Thr	att Ile	ata Ile	ggt Gly	act Thr 250	cta Leu	ttt Phe	gat Asp	aag Lys	aga Arg 255	tgt Cys	768
tgg tt Trp Le	a tgg u Trp	gtc Val 260	tgg Trp	gaa Glu	gct Ala	ttt Phe	gtc Val 265	tat Tyr	gct Ala	ttc Phe	atc Ile	tta Leu 270	atg Met	cat His	816
tcc ac Ser Th	t tca r Ser 275	ctg Leu	atg Met	ctg Leu	agc Ser	agc Ser 280	cct Pro	acr Xaa	ttg Leu	aaa Lys	agg Arg 285	att Ile	cta Leu	aag Lys	864
gga aa Gly Ly 29	s Cys	tag													876
<210> <211> <212> <213>	PRT	sap	iens												
<220> <221> <222> <223>	misc (100) The	Ī., (:	100)	loca	ation	n 100	O sta	ands	for	Thr.	•				
<220> <221> <222> <223>	misc (101) The	Ī., (:	101)	loca	ation	n 10:	l sta	ands	for	Val,	, Met	E, OI	c Ile	e.	
<220> <221> <222> <223>	(154)	Ī(:	154)	loca	ation	n 154	4 sta	ands	for	Leu	•				
<220> <221> <222> <223>	(172)	ī., (:	172)	loca	ation	n 172	2 sta	ands	for	Lys,	, or	Asn	•		
<220> <221> <222> <223>	_	ī (2	222)	loca	atìon	n 222	2 sta	ands	for	Arg,	, or	His	•		
<220> <221> <222> <223>	(282)	ī (2	282)	loca	ation	n 282	2 sta	ands	for	Thr.					
<400>	22														

Met 1	Ile	Pro) Il∈	Glr 5	ı Lev	Thi	Val	. Phe	Phe 10	e Met	: Ile	: Ile	туг	Va]	L Leu
Glu	Ser	Leu	Thr 20	: Ile	e Ile	e Val	. Gln	Ser 25	Ser	Leu	ı Ile	Val	Ala 30	ı Val	. Leu
Gly	Arg	Glu 35	Trp	Leu	ı Gln	Val	Arg 40	Arg	Leu	Met	Pro	Val 45	Asp	Met	: Ile
Leu	Ile 50	Ser	Leu	Gly	'Ile	Ser 55	Arg	Phe	Cys	Leu	Gln 60	Trp	Ala	Ser	Met
Leu 65	Asn	Asn	Phe	Cys	Ser 70	Tyr	Phe	Asn	Leu	Asn 75	Tyr	Val	Leu	Cys	Asn 80
Leu	Thr	Ile	Thr	Trp 85	Glu	Phe	Phe	Asn	Ile 90	Leu	Thr	Phe	Trp	Leu 95	Asn
Ser	Leu	Leu	Xaa 100	Xaa	Phe	Tyr	Суз	Ile 105	Lys	Val	Ser	Ser	Phe	Thr	His
His	Ile	Phe 115	Leu	Trp	Leu	Arg	Trp 120	Arg	Ile	Leu	Arg	Leu 125	Phe	Pro	Trp
Ile	Leu 130	Leu	Gly	Ser	Leu	Met 135	Ile	Thr	Cys	Val	Thr 140	Ile	Ile	Pro	Ser
Ala 145	Ile	Gly	Asn	Tyr	Ile 150	Gln	Ile	Gln	Xaa	Leu 155	Thr	Met	Glu	His	Leu 160
Pro	Arg	Asn	Ser	Thr 165	Val	Thr	Asp	Lys	Leu 170	Glu	Xaa	Phe	His	Gln 175	Tyr
Gln	Phe	Gln	Ala 180	His	Thr	Val	Ala	Leu 185	Val	Ile	Pro	Phe	Ile 190	Leu	Phe
Leu	Ala	Ser 195	Thr	Ile	Phe	Leu	Met 200	Ala	Ser	Leu	Thr	Lys 205	Gln	Ile	Gln
His	His 210	Ser	Thr	Gly	His	Cys 215	Asn	Pro	Ser	Met	Lys 220	Ala	Xaa	Phe	Thr
Ala : 225	Leu	Arg	Ser	Leu	Ala 230	Val	Leu	Phe	Ile	Val 235	Phe	Thr	Ser	Tyr	Phe 240

Leu Thr Ile Leu Ile Thr Ile Ile Gly Thr Leu Phe Asp Lys Arg Cys 245 250 255

Trp Leu Trp Val Trp Glu Ala Phe Val Tyr Ala Phe Ile Leu Met His 260 265 270

Ser Thr Ser Leu Met Leu Ser Ser Pro Xaa Leu Lys Arg Ile Leu Lys 275 280 285

Gly Lys Cys 290

<210> 23

<211> 1002

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(1002)

<220>

<221> variation

<222> (145)..(145)

<223> s is c or g

<220>

<221> variation

<222> (239)..(239)

<223> r is a or g

<220>

<221> variation

<222> (785)..(785)

<223> y is t or c

<220>

<221> variation

<222> (820)..(820)

<223> y is t or c

<220>

<221> variation

<222> (886)..(886)

<223> r is a or g

<400> 23

atg ttg act cta act cgc atc cgc act gtg tcc tat gaa gtc agg agt

Met Leu Thr Leu Thr Arg Ile Arg Thr Val Ser Tyr Glu Val Arg Ser

1 10 15

aca ttt ctg ttc att tca gtc ctg gag ttt gca gtg ggg ttt ctg acc
Thr Phe Leu Phe Ile Ser Val Leu Glu Phe Ala Val Gly Phe Leu Thr
20 25 30

144

aat gcc ttc gtt ttc ttg gtg aat ttt tgg gat gta gtg aag agg cag

Asn	Ala	Phe 35	Val	Phe	Leu	Val	Asn 40	Phe	Trp	Asp	Val	Val 45	Lys	Arg	Gln	
sca Xaa	ctg Leu 50	agc Ser	aac Asn	agt Ser	gat Asp	tgt Cys 55	gtg Val	ctg Leu	ctg Leu	tgt Cys	ctc Leu 60	agc Ser	atc Ile	agc Ser	cgg Arg	192
ctt Leu 65	ttc Phe	ctg Leu	cat His	gga Gly	ctg Leu 70	ctg Leu	ttc Phe	ctg Leu	agt Ser	gct Ala 75	atc Ile	cag Gln	ctt Leu	acc Thr	crc Xaa 80	240
ttc Phe	cag Gln	aag Lys	ttg Leu	agt Ser 85	gaa Glu	cca Pro	ctg Leu	aac Asn	cac His 90	agc Ser	tac Tyr	caa Gln	gcc Ala	atc Ile 95	atc Ile	288
atg Met	cta Leu	tgg Trp	atg Met 100	att Ile	gca Ala	aac Asn	caa Gln	gcc Ala 105	aac Asn	ctc Leu	tgg Trp	ctt Leu	gct Ala 110	gcc Ala	tgc Cys	336
ctc Leu	agc Ser	ctg Leu 115	ctt Leu	tac Tyr	tgc Cys	tcc Ser	aag Lys 120	ctc Leu	atc Ile	cgt Arg	ttc Phe	tct Ser 125	cac His	acc Thr	ttc Phe	384
ctg Leu	atc Ile 130	tgc Cys	ttg Leu	gca Ala	agc Ser	tgg Trp 135	gtc Val	tcc Ser	agg Arg	aag Lys	atc Ile 140	tcc Ser	cag Gln	atg Met	ctc Leu	432
ctg Leu 145	ggt Gly	att Ile	att Ile	ctt Leu	tgc Cys 150	tcc Ser	tgc Cys	atc Ile	tgc Cys	act Thr 155	gtc Val	ctc Leu	tgt Cys	gtt Val	tgg Trp 160	480
tgc Cys	ttt Phe	ttt Phe	agc Ser	aga Arg 165	cct Pro	cac His	ttc Phe	aca Thr	gtc Val 170	aca Thr	act Thr	gtg Val	cta Leu	ttc Phe 175	atg Met	528
aat Asn	aac Asn	aat Asn	aca Thr 180	agg Arg	ctc Leu	aac Asn	tgg Trp	cag Gln 185	aat Asn	aaa Lys	gat Asp	ctc Leu	aat Asn 190	tta Leu	ttt Phe	576
tat Tyr	tcc Ser	ttt Phe 195	ctc Leu	ttc Phe	tgc Cys	tat Tyr	ctg Leu 200	tgg Trp	tct Ser	gtg Val	cct Pro	cct Pro 205	ttc Phe	cta Leu	ttg Leu	624
ttt Phe	ctg Leu 210	gtt Val	tct Ser	tct Ser	Gly aaa	atg Met 215	ctg Leu	act Thr	gtc Val	tcc Ser	ctg Leu 220	gga Gly	agg Arg	cac His	atg Met	672
agg Arg 225	aca Thr	atg Met	aag Lys	gtc Val	tat Tyr 230	acc Thr	aga Arg	aac Asn	tct Ser	cgt Arg 235	gac Asp	ccc Pro	agc Ser	ctg Leu	gag Glu 240	720
gcc Ala	Cac His	att Ile	aaa Lys	gcc Ala 245	ctc Leu	aag Lys	tct Ser	ctt Leu	gtc Val 250	tcc Ser	ttt Phe	ttc Phe	tgc Cys	ttc Phe 255	ttt Phe	768
	0	tca Ser	260	Cys	naa	ALA	rne	265	ser	Val	Pro	Leu	Leu 270	Ile	Leu	816
tgg Trp	ygc Xaa	gac Asp	aaa Lys	ata Ile	ggg Gly	gtg Val	atg Met	gtt Val	tgt Cys	gtt Val	ggg Gly	ata Ile	atg Met	gca Ala	gct Ala	864

	41/447	PCT/US2004/019489
275	280 285	
tgt ccc tct ggg cat gca Cys Pro Ser Gly His Ala 290	a gcc rtc ctg atc tca ggc aat gcc Ala Xaa Leu Ile Ser Gly Asn Ala 295 300	C aag ttg 912 Lys Leu
305 310	att ctg ctc tgg gct cag agc agc Ile Leu Leu Trp Ala Gln Ser Ser 315	Leu Lys 320
gta aga gcc gac cac aag Val Arg Ala Asp His Lys 325	gca gat tcc cgg aca ctg tgc tga Ala Asp Ser Arg Thr Leu Cys 330	1002
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	al Leu Glu Phe Ala Val Gly Phe L 25 30	•
Asn Ala Phe Val Phe Leu Va 35	al Asn Phe Trp Asp Val Val Lys A 40 45	rg Gln
V		

Xaa Leu Ser Asn Ser Asp Cys Val Leu Leu Cys Leu Ser Ile Ser Arg 50 55 60

Leu 65	Phe	: Le	ı His	3 Gly	/ Let 70	Le.	ı Phe	e Leu	ı Ser	75	a Ile	e Glı	n Lei	u Th:	r Xaa 80
Phe	Gln	Lys	s Leu	Ser 85	Glu	Pro	Leu	Asr	His 90	Se:	туг	Glr	n Ala	a Ile 95	e Ile
Met	Leu	Trp	Met 100	: Ile	: Ala	Asn	Gln	Ala 105	Asn	Let	1 Trp	Let	1 Ala	a Ala	Cys
Leu	Ser	Leu 115	Leu	Tyr	Cys	Ser	Lys 120	Leu	Ile	Arg	, Phe	Ser 125		Thr	Phe
Leu	Ile 130	Cys	Leu	Ala	Ser	Trp 135	Val	Ser	Arg	Lys	Ile 140	Ser	Gln	Met	Leu
Leu 145	Gly	Ile	Ile	Leu	Cys 150	Ser	Cys	Ile	Cys	Thr 155	Val	Leu	Cys	Val	Trp 160
Cys	Phe	Phe	Ser	Arg 165	Pro	His	Phe	Thr	Val 170	Thr	Thr	Val	Leu	Phe	Met
Asn	Asn	Asn	Thr 180	Arg	Leu	Asn	Trp	Gln 185	Asn	Lys	Asp	Leu	Asn 190	Leu	Phe
Tyr	Ser	Phe 195	Leu	Phe	Cys	Tyr	Leu 200	Trp	Ser	Val	Pro	Pro 205	Phe	Leu	Leu
Phe	Leu 210	Val	Ser	Ser	Gly	Met 215	Leu	Thr	Val	Ser	Leu 220	Gly	Arg	His	Met
Arg 225	Thr	Met	Lys	Val	Tyr 230	Thr	Arg	Asn	Ser	Arg 235	Asp	Pro	Ser	Leu	Glu 240
Ala	His	Ile	Lys	Ala 245	Leu	Lys	Ser	Leu	Val 250	Ser	Phe	Phe	Суз	Phe 255	Phe
Val :	Ile	Ser	Ser 260	Cys	Xaa	Ala	Phe	Ile 265	Ser	Val	Pro	Leu	Leu 270	Ile	Leu
Trp)	Kaa .	Asp 275	Lys	Ile	Gly	Val	Met 280	Val	Суз	Val	Gly	Ile 285	Met	Ala	Ala
Cys 1	Pro 1	Ser	Gly	His .	Ala .	Ala 295	Xaa	Leu	Ile	Ser	Gly 300	Asn	Ala	Lys	Leu

Arg Arg Ala Val Met Thr Ile Leu Leu Trp Ala Gln Ser Ser Leu Lys 305 310 315 320	
Val Arg Ala Asp His Lys Ala Asp Ser Arg Thr Leu Cys 325 330	
<210> 25 <211> 1014 <212> DNA <213> Homo sapiens	
<220> <221> CDS <222> (1)(1014)	
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<220> <221> variation <222> (589)(589) <223> r is a or g	
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aga atg act aaa ctc tgc gat cct gca gaa agt gaa ttg tcg cca ttt Arg Met Thr Lys Leu Cys Asp Pro Ala Glu Ser Glu Leu Ser Pro Phe 20 25 30	96
ctc atc acc tta att tta gca gtt tta ctt gct gaa tac ctc att ggt 14 Leu Ile Thr Leu Ile Leu Ala Val Leu Leu Ala Glu Tyr Leu Ile Gly 35 40 45	44
atc att gca aat ggt ttc atc atg gct ata cat gca gct gaa tgg gtt 19 Ile Ile Ala Asn Gly Phe Ile Met Ala Ile His Ala Ala Glu Trp Val 50 55 60	92
caa aat aag gca gtt tcc aca agt ggc agg atc ctg gtt ttc ctg agt Gln Asn Lys Ala Val Ser Thr Ser Gly Arg Ile Leu Val Phe Leu Ser 65 70 75 80	40
gta tcc aga ata gct ctc caa agc ctc atg atg tta gaa att acc atc Val Ser Arg Ile Ala Leu Gln Ser Leu Met Met Leu Glu Ile Thr Ile 85 90 95	38
agc tca acc tcc cta agt ttt tat tct gaa gac gct gta tat tat gca 33 Ser Ser Thr Ser Leu Ser Phe Tyr Ser Glu Asp Ala Val Tyr Tyr Ala 100 105 110	36
ttc aaa ata agt ttt ata ttc tta aat ttt tgt agc ctg tgg ttt gct Phe Lys Ile Ser Phe Ile Phe Leu Asn Phe Cys Ser Leu Trp Phe Ala 115 120 125	34

	130	1				13	5	o va.	т гіў	s II	e Al 14	a Ası O	n Ph	e Se	c tac r Tyr	
145					150)	,,		9 11	15.	5 5	у гел	ı Il	e Pr	c tgg o Trp 160	480
				165				s per	170	3 Sei	c Hi	s Ser	: Met	: Pho 17!		528
			180			-1-	. Oyı	185	ASI	ı sei	Phe	e Pro	11e	His	tcc S Ser	576
		195			•		200	Deu	. ser	. GT.	î TT'ê	205 Asn	. Val	. Val	ggt Gly	624
	210					215	CLJ	446	vaı	THE	220) Leu	Ile	Met	ttc Phe	672
225					230		110	Deu	ser	235	ьуѕ	Arg	His	Thr	cta Leu 240	720
cac His				245			OLy	per	250	Asp	Pro	Ser	Met	Glu 255	Ala	768
cac a			260		-2-		-	265	īλτ	Pne	Leu	Ile	Leu 270	Tyr	Ile	816
ttc a Phe A	2	275				0	280	+ y +	теп	ser	Asn	Met 285	Phe	Asp	Ile	864
aac a Asn S	290					295	1-			776	300	Ата	Ala	Tyr	Pro	912
gcc a Ala s 305					310			CIII	ASD	315	Pro	GLY	Leu	Arg	Arg 320	960
gcc t Ala T		er (ggc 1 Sly 1	ttc a Phe a B25	agc Ser	ttc Phe	gac Asp	T 11G	atc Ile 330	ttt Phe	acc Thr	caa Gln	Lys	agt Ser 335	gga Gly	1008
ctc t Leu	ga									٠						1014

<210> 26 <211> 337 <212> PRT <213> Homo sapiens

<220>

<221> misc feature

<222> (193)..(193)

<223> The 'Xaa' at location 193 stands for Ser, or Phe.

<220>

<221> misc_feature

<222> (197)..(197)

<223> The 'Xaa' at location 197 stands for Glu, or Lys.

<400> 26

Met Leu Gly Arg Cys Phe Pro Pro Asp Thr Lys Glu Lys Gln Gln Leu 1 5 10 15

Arg Met Thr Lys Leu Cys Asp Pro Ala Glu Ser Glu Leu Ser Pro Phe 20 25 30

Leu Ile Thr Leu Ile Leu Ala Val Leu Leu Ala Glu Tyr Leu Ile Gly 35 40 45

Ile Ile Ala Asn Gly Phe Ile Met Ala Ile His Ala Ala Glu Trp Val 50 55 60

Gln Asn Lys Ala Val Ser Thr Ser Gly Arg Ile Leu Val Phe Leu Ser 65 70 75 80

Val Ser Arg Ile Ala Leu Gln Ser Leu Met Met Leu Glu Ile Thr Ile 85 90 95

Ser Ser Thr Ser Leu Ser Phe Tyr Ser Glu Asp Ala Val Tyr Tyr Ala

Phe Lys Ile Ser Phe Ile Phe Leu Asn Phe Cys Ser Leu Trp Phe Ala 115

Ala Trp Leu Ser Phe Phe Tyr Phe Val Lys Ile Ala Asn Phe Ser Tyr 130 135 140

Pro Leu Phe Leu Lys Leu Arg Trp Arg Ile Thr Gly Leu Ile Pro Trp 145 150 155 160

Leu Leu Trp Leu Ser Val Phe Ile Ser Phe Ser His Ser Met Phe Cys 165 170 175

Ile Asn Ile Cys Thr Val Tyr Cys Asn Asn Ser Phe Pro Ile His Ser 180 185 190 Xaa Asn Ser Thr Xaa Lys Thr Tyr Leu Ser Glu Ile Asn Val Val Gly
195 200 205

Leu Ala Phe Phe Phe Asn Leu Gly Ile Val Thr Pro Leu Ile Met Phe 210 215 220

Ile Leu Thr Ala Thr Leu Leu Ile Leu Ser Leu Lys Arg His Thr Leu 225 230 235 240

His Met Gly Ser Asn Ala Thr Gly Ser Asn Asp Pro Ser Met Glu Ala 245 250 255

His Met Gly Ala Ile Lys Ala Ile Ser Tyr Phe Leu Ile Leu Tyr Ile 260 270

Phe Asn Ala Val Ala Leu Phe Ile Tyr Leu Ser Asn Met Phe Asp Ile 275 280 285

Asn Ser Leu Trp Asn Asn Leu Cys Gln Ile Ile Met Ala Ala Tyr Pro 290 295 300

Ala Ser His Ser Ile Leu Leu Ile Gln Asp Asn Pro Gly Leu Arg Arg 305 310 315 320

Ala Trp Ser Gly Phe Ser Phe Asp Phe Ile Phe Thr Gln Lys Ser Gly 325 330 335

Leu

<210> 27

<211> 972

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(972)

<220>

<221> variation

<222> (560)..(560)

<223> m is a or c

<220>

<221> variation

<222> (817)..(817)

<223> r is a or g

	<400> 27																	
ā	ata	aca	ac	g gt r Va	g aa l As 5	c ac n Th	a ga r As	t gc p Al	c ac	a ga r As 10	ь га	a ga s As	c at	a to	r L	уs	ttc Phe	48
a I	ıag ys	gto Val	ac Th	c tt r Ph 20	c ac e Th	t tt r Le	g gt u Va	g gt l Va	c tc 1 Se: 25	c gg r Gl	a at y Il	a ga e Gl	g tg u Cy	c ats Il	e T	_	G1A aac	96
			35			_		40	g gcd r Ala	4 44,	e ry.	r GT	y A1.	a Gl	u T	rp	Ala	144
		50					55		t gad y Asp	AL	3 TT6	60 8 Me	t Le	u Me	t Le	∍u	Ser	192
6.	5					70			tgg Trp	, He	75	Let	ı GI	ı As:	n I]	Le	Phe 80	240
					85			1-	aac Asn	90	I ASI	ı sei	c Val	L Ty:	r Il 95	.е	Leu	288
				100)			100	aac Asn 105	nis	s ser	: Asr	ı Let	Trp 11(Ph	e.	Ala	336
			115	•				120		Arg	TTE	Ala	125	Ph∈	aA e	n l	His	384
	1	130					135	1129	aaa Lys	тте	TTE	Val 140	Leu	Met	Pr	0 7	rp	432
14	5					150			tcc Ser	ьец	155	Pne	Ser	Phe	Pr	o I 1	Seu 160	480
					165				gtg Val	170	ser	ser	Ile	Pro	11e	e E 5	ro	528
				180			~,0	дуз	tacı Tyr 185	rne	Aaa	GLu	Thr	Asn 190	Met	: V	al	576
		:	195			4 -		200	G1Y ggg	116	rne	AgT	205	Leu	Ile	: M	et	624
	2	10					215	204	atc Ile	neu	ser	220	ГÀЗ	Arg	His	T	hr	672
cta Leu 225	e Ca e H:	ac a is M	atg Iet	gga Gly	agc Ser	aat Asn 230	gcc Ala	aca Thr	GJA aaa	tcc Ser	agg Arg 235	gac Asp	ccc Pro	agc Ser	atg Met	Ŀ	ag ys 40	720

48	111	7
40	/44	

											48/44	7						04/01/402
					-	245		_,	ALG	1111	250	Tyr	Phe	: Leu	Ile	Leu 255		768
					260				1116	265	ser	Thr	ser		Ile 270	Phe	Asp	816
			2	275					280	Суб	пĀг	тте	TTE	atg Met 285	Ala	Ala	Tyr	864
		29	0	_				295	Deu	116	ъец	стХ	300	cct Pro	Gly	Leu	Arg	912
	305			_	•	cgg Arg	ttt Phe 310	cag Gln	cac His	caa Gln	gtt Val	cct Pro 315	ctt Leu	tac Tyr	cta Leu	aaa Lys	ggg Gly 320	960
	cag Gln	ac Th	t c r I	eu :eu	tga													972
	<21 <21 <21 <22 <22 <22 <22 <22 <22 <22	1> 2> 3> 0> 1> 2> 3> 1> 2> 3>	mi (1 The	sc_: 87): e '}	feat	ure 87) at ure 73)								or or				
	Met 1	Ala	Tì	nr V	al i	Asn 5	Thr .	Asp A	Ala '	Thr 1	Asp 1	Lys 1	Asp :	Ile :		Lys 1 15	Phe	
	Lys	Val	Th	ır P 2	he 1	Thr I	Leu '	Val V	/al s	Ser (25	Gly 1	(le (Glu (Cys :	lle 7 30	Thr (31y	
	Ile	Leu	G1 35	y S	er (Sly I	Phe I	Ile 1	hr A	Ala I	le T	yr G	61y <i>1</i>	Ala 6 45	Slu T	rp A	l la	
ì	Arg	Gly 50	Ьy	s T	hr I	eu I	Pro 1	hr G	ly A	Asp A	rg I	le M	Met I	beu M	iet L	eu S	Ser	

Phe Ser Arg Leu Leu Gln Ile Trp Met Met Leu Glu Asn Ile Phe

75

Ser	Leu	Leu	Phe	Arg 85	Ile	Val	Tyr	Asn	Gln 90	Asn	Ser	Val	Tyr	Ile 95	Leu
Phe	Lys	Val	Ile 100	Thr	Val	Phe	Leu	Asn 105	His	Ser	Asn	Leu	Trp 110	Phe	Ala
Ala	Trp	Leu 115	Lys	Val	Phe	Tyr	Cys 120	Leu	Arg	Ile	Ala	Asn 125	Phe	Asn	His
Pro	Leu 130	Phe	Phe	Leu	Met	Lys 135	Arg	Lys	Ile	Ile	Val 140	Leu	Met	Pro	Trp
Leu 145	Leu	Arg	Leu	Ser	Val 150	Leu	Val	Ser	Leu	Ser 155	Phe	Ser	Phe	Pro	Leu 160
Ser	Arg	Asp	Val	Phe 165	Asn	Val	Tyr	Val	Asn 170	Ser	Ser	Ile	Pro	Ile 175	Pro
Ser	Ser	Asn	Ser 180	Thr	Glu	Lys	Lys	Tyr 185	Phe	Xaa	Glu	Thr	Asn 190	Met	Val
Asn	Leu	Val 195	Phe	Phe	Tyr	Asn	Met 200	Gly	Ile	Phe	Val	Pro 205	Leu	Ile	Met
Phe	Ile 210	Leu	Ala	Ala	Thr	Leu 215	Leu	Ile	Leu	Ser	Leu 220	Lys	Arg	His	Thr
Leu 225	His	Met	Gly	Ser	Asn 230	Ala	Thr	Gly	Ser	Arg 235	Asp	Pro	Ser	Met	Lys 240
Ala	His	Ile	Gly	Ala 245	Ile	Lys	Ala	Thr	Ser 250	Tyr	Phe	Leu	Ile	Leu 255	Tyr
Ile	Phe	Asn	Ala 260	Ile	Ala	Leu	Phe	Leu 265	Ser	Thr	Ser	Asn	Ile 270	Phe	Asp
Xaa	Tyr	Ser 275	Ser	Trp	Asn	Ile	Leu 280	Cys	Lys	Ile	Ile	Met 285	Ala	Ala	Tyr
Pro	Ala 290	Gly	His	Ser	Val	Gln 295	Leu	Ile	Leu	Gly	Asn 300	Pro	Gly	Leu	Arg
Arg 305	Ala	Trp	Lys	Arg	Phe 310	Gln	His	Gln	Val	Pro 315	Leu	Tyr	Leu	Lys	Gly 320

Gln Thr Leu

<210> 29 <211> 924	
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<220> <221> variation <222> (380)(380) <223> y is t or c	
<220> <221> variation <222> (584)(584) <223> w is a or t	
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agt ctt ctg ggg att gca gcg aat ggc ttc att gtg ctg gtg ctg ggc Ser Leu Leu Gly Ile Ala Ala Asn Gly Phe Ile Val Leu Val Leu Gly 20 25 30	96
agg gag tgg ctg cga tat ggc agg ttg ctg ccc ttg gat atg atc ctc Arg Glu Trp Leu Arg Tyr Gly Arg Leu Leu Pro Leu Asp Met Ile Leu 35 40 45	144
att agc ttg ggt gcc tcc cgc ttc tgc ctg cag ttg gtt ggg acr gtg Ile Ser Leu Gly Ala Ser Arg Phe Cys Leu Gln Leu Val Gly Xaa Val 50 55	192
cac aac ttc tac tac tct gcc cag aag gtc gag tac tct ggg ggt ctc His Asn Phe Tyr Tyr Ser Ala Gln Lys Val Glu Tyr Ser Gly Gly Leu 75 80	240
ggc cga cag ttc ttc cat cta cac tgg cac ttc ctg aac tca gcc acc Gly Arg Gln Phe Phe His Leu His Trp His Phe Leu Asn Ser Ala Thr 85 90 95	288
ttc tgg ttt tgc agc tgg ctc agt gtc ctg ttc tgt gtg aag att gct Phe Trp Phe Cys Ser Trp Leu Ser Val Leu Phe Cys Val Lys Ile Ala 100 105	336
aac atc aca cac tcc acc ttc ctg tgg ctg aag tgg agg ttc cya ggg Asn Ile Thr His Ser Thr Phe Leu Trp Leu Lys Trp Arg Phe Xaa Gly 115 120 125	384

5	1	/4	4	7

	130)				13	5		- va.	- 116	14	e se O	r Ph	e Il	c ata e Ile	
145					150)		1-		15	1 Ty:	r GI	n GI	ı Ph	t tta e Leu 160	480
				165	, -				170	, пу	s Tr	Ası	1 Thi	: Arg	g ata g Ile	528
			180					185	Deu	. val	. TT6	rrp	Ser 190	: Ile	cct Pro	576
		195					200	1160	пец	теп	TTE	Asn 205	Ser	Lev	agg Arg	624
agg Arg	cat His 210	act Thr	cag Gln	aga Arg	atg Met	cag Gln 215	cac His	aac Asn	Gly	cac His	agc Ser 220	ctg Leu	cag Gln	gac Asp	ccc	672
agc : Ser ! 225					230	9		neu	пуѕ	235	ьeu	Ile	Ser	Phe	Leu 240	720
att (Ile]				245				561	250	тте	тте	Asp	Ala	Ala 255	Lys	768
ttt a Phe]			260					265	тъ	Pro	Trp	Gln	Ile 270	Ala	Val	816
tac c Tyr L	2	275					280		**C	neu	тте	285	Ser	Asn	Leu	864
aag c Lys L 2	90			gtg Val	ttc Phe	tca Ser 295	cag Gln :	ctc Leu :	ctg Leu :	пец	ttg Leu 300	gca Ala	agg Arg	GJY ggc	ttc Phe	912
tgg g Trp V 305	tg g al A	icc i	tga													924
<210> <211> <212> <213>	30 PR	7 T	apie	ens												
<220> <221> <222> <223>	(6:	3)	eatu (63) aa'		ocat	ion	63 s	tand	e fo	. m . m ·						
<220>							- 3		- 10	T IL	id					

WO 2005/007891 52/447 <221> misc feature <222> (127)..(127) <223> The 'Xaa' at location 127 stands for Pro, or Leu. <220> <221> misc_feature <222> (195)..(195) <223> The 'Xaa' at location 195 stands for Asp, or Val. <400> 30 Met Gln Ala Ala Leu Thr Ala Phe Phe Val Leu Leu Phe Ser Leu Leu 10 Ser Leu Leu Gly Ile Ala Ala Asn Gly Phe Ile Val Leu Val Leu Gly Arg Glu Trp Leu Arg Tyr Gly Arg Leu Leu Pro Leu Asp Met Ile Leu 40 Ile Ser Leu Gly Ala Ser Arg Phe Cys Leu Gln Leu Val Gly Xaa Val His Asn Phe Tyr Tyr Ser Ala Gln Lys Val Glu Tyr Ser Gly Gly Leu

Gly Arg Gln Phe Phe His Leu His Trp His Phe Leu Asn Ser Ala Thr 85

Phe Trp Phe Cys Ser Trp Leu Ser Val Leu Phe Cys Val Lys Ile Ala 100

Asn Ile Thr His Ser Thr Phe Leu Trp Leu Lys Trp Arg Phe Xaa Gly 115

Trp Val Pro Trp Leu Leu Gly Ser Val Leu Ile Ser Phe Ile Ile 130

Thr Leu Leu Phe Phe Trp Val Asn Tyr Pro Val Tyr Gln Glu Phe Leu 145

Ile Arg Lys Phe Ser Gly Asn Met Thr Tyr Lys Trp Asn Thr Arg Ile 165 170

Glu Thr Tyr Tyr Phe Pro Ser Leu Lys Leu Val Ile Trp Ser Ile Pro 180

Phe Ser Xaa Phe Leu Val Ser Ile Met Leu Leu Ile Asn Ser Leu Arg 195 200

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Arg His Thr Gln Arg Met Gln His Asn Gly His Ser Leu Gln Asp Pro 210 215

Ser Thr Gln Ala His Thr Arg Ala Leu Lys Ser Leu Ile Ser Phe Leu 230 235 240

Ile Leu Tyr Ala Leu Ser Phe Leu Ser Leu Ile Ile Asp Ala Ala Lys 250 255

Phe Ile Ser Met Gln Asn Asp Phe Tyr Trp Pro Trp Gln Ile Ala Val 260 265

Tyr Leu Cys Ile Ser Val His Pro Phe Ile Leu Ile Phe Ser Asn Leu 275 280 285

Lys Leu Arg Ser Val Phe Ser Gln Leu Leu Leu Leu Ala Arg Gly Phe 290 295

Trp Val Ala 305 .

<210> 31

<211> 930

<212> DNA

<213> Homo sapiens

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<221> CDS <222> (1)..(930)

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<221> variation <222> (104)..(104) <223> s is g or c

<220>

<221> variation <222> (270)..(270) <223> r is a or g

<220>

<221> variation
<222> (460)..(460)
<223> s is g or c

<220>

<221> variation <222> (510)..(510) <223> k is t or g

<220>

	54/447	1 C 1/US2004/019
<221> variation <222> (599)(599) <223> k is t or g		
<220> <221> variation <222> (635)(635) <223> r is a or g		
<220> <221> variation <222> (663)(663) <223> s is g or c		
<220> <221> variation <222> (882)(882) <223> k is t or g		
<220> <221> variation <222> (883)(883) <223> y is t or c		
<220> <221> variation <222> (889)(889) <223> r is a or g		
<pre><400> 31 atg ata act ttt cta ccc atc att tt Met Ile Thr Phe Leu Pro Ile Ile Pho 1</pre>	10 200 var var var	Thr
ttt gtt att gga aat ttt gct aat ggo Phe Val Ile Gly Asn Phe Ala Asn Gly 20 25	a nea var Asn	Ser
att gag tsg ttc aag aga caa aag atc Ile Glu Xaa Phe Lys Arg Gln Lys Ile 35 40	tcc ttt gct gac caa att Ser Phe Ala Asp Gln Ile	Leu
act gct ctg gcg gtc tcc aga gtt ggt Thr Ala Leu Ala Val Ser Arg Val Gly 50 55	60 ter ber Leu	Leu
aac tgg tat tca act gtg ttg aat cca Asn Trp Tyr Ser Thr Val Leu Asn Pro 70	75	/al
aga act act gct tat aat atc tgg gca Arg Thr Thr Ala Tyr Asn Ile Trp Ala 85	90 His Phe Ser A	sn
Trp Leu Ala Thr Thr Leu Ser Ile Phe	tat ttg ctc aag att gcc aa Tyr Leu Leu Lys Ile Ala As	sn
ttc tcc aac ttt att ttt ctt cac tta a Phe Ser Asn Phe Ile Phe Leu His Leu I 115		384 31

att ctg gtg atg ttg ttg ggg cct ttg cta ttt ttg gct tgt cat ctt Ile Leu Val Met Leu Leu Gly Pro Leu Leu Phe Leu Ala Cys His Leu 130 135	432
ttt gtg ata aac atg aat gag att gtg sgg aca aaa gaa ttt gaa gga Phe Val Ile Asn Met Asn Glu Ile Val Xaa Thr Lys Glu Phe Glu Gly 150 155 160	480
aac atg act tgg aag atc aaa ttg aag agk gca atg tac ttt tca aat Asn Met Thr Trp Lys Ile Lys Leu Lys Xaa Ala Met Tyr Phe Ser Asn 165 170	528
atg act gta acc atg gta gca aac tta gta ccc ttc act ctg acc cta Met Thr Val Thr Met Val Ala Asn Leu Val Pro Phe Thr Leu Thr Leu 180 185 190	576
cta tct ttt atg ctg tta atc tkt tct ttg tgt aaa cat ctc aag aag Leu Ser Phe Met Leu Leu Ile Xaa Ser Leu Cys Lys His Leu Lys Lys 195 200 205	624
atg cag ctc crt ggt aaa gga tct caa gat ccc agc acs aag gtc cac Met Gln Leu Xaa Gly Lys Gly Ser Gln Asp Pro Ser Xaa Lys Val His 210 215 220	672
ata aaa gct ttg caa act gtg atc tcc ttc ctc ttg tta tgt gcc att Ile Lys Ala Leu Gln Thr Val Ile Ser Phe Leu Leu Cys Ala Ile 235 240	720
tac ttt ctg tcc ata atg ata tca gtt tgg agt ttt gga agt ctg gaa Tyr Phe Leu Ser Ile Met Ile Ser Val Trp Ser Phe Gly Ser Leu Glu 245 250	768,
aac aaa cct gtc ttc atg ttc tgc aaa gct att aga ttc agc tat cct Asn Lys Pro Val Phe Met Phe Cys Lys Ala Ile Arg Phe Ser Tyr Pro 260 265 270	816
tca atc cac cca ttc atc ctg att tgg gga aac aag aag cta aag cag Ser Ile His Pro Phe Ile Leu Ile Trp Gly Asn Lys Leu Lys Gln 275 280 285	864
act ttt ctt tca gtt ttk ygg caa rtg agg tac tgg gtg aaa gga gag Thr Phe Leu Ser Val Xaa Xaa Gln Xaa Arg Tyr Trp Val Lys Gly Glu 290 295 300	912
aag act tca tct cca tga Lys Thr Ser Ser Pro .305	930
<210> 32 <211> 309 <212> PRT <213> Homo sapiens	
<pre><220> <221> misc_feature <222> (35)(35) <223> The 'Xaa' at location 35 stands for Trp, or Ser.</pre>	
<220>	

<221> misc feature <222> (90)..(90) <223> The 'Xaa' at location 90 stands for Val. <220> <221> misc_feature <222> (154)..(154) <223> The 'Xaa' at location 154 stands for Gly, or Arg. <220> <221> misc_feature <222> (170)..(170) <223> The 'Xaa' at location 170 stands for Arg, or Ser. <220> <221> misc feature <222> (200)..(200) <223> The 'Xaa' at location 200 stands for Cys, or Phe. <220> <221> misc_feature <222> (212)..(212) <223> The 'Xaa' at location 212 stands for Arg, or His. <220> <221> misc_feature <222> (221)..(221) <223> The 'Xaa' at location 221 stands for Thr. <220> <221> misc_feature <222> (294)..(294) <223> The 'Xaa' at location 294 stands for Leu, or Phe. <220> <221> misc_feature <222> (295)..(295) <223> The 'Xaa' at location 295 stands for Arg, or Trp. <220> <221> misc_feature <222> (297)..(297) <223> The 'Xaa' at location 297 stands for Val, or Met. <400> 32 Met Ile Thr Phe Leu Pro Ile Ile Phe Ser Ser Leu Val Val Thr Phe Val Ile Gly Asn Phe Ala Asn Gly Phe Ile Ala Leu Val Asn Ser Ile Glu Xaa Phe Lys Arg Gln Lys Ile Ser Phe Ala Asp Gln Ile Leu

Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Leu Leu Leu

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Asn 65	Trp	Tyr	Ser	Thr	Val 70	Leu	Asn	Pro	Ala	Phe 75	Asn	Ser	Val	Glu	Val 80
Arg	Thr	Thr	Ala	Tyr 85	Asn	Ile	Trp	Ala	Xaa 90	Ile	Asn	His	Phe	Ser 95	Asn
Trp	Leu	Ala	Thr 100	Thr	Leu	Ser	Ile	Phe 105	Tyr	Leu	Leu	Lys	Ile 110	Ala	Asn
Phe	Ser	Asn 115	Phe	Ile	Phe	Leu	His 120	Leu	Lys	Arg	Arg	Val 125	Lys	Ser	Val
Ile	Leu 130	Val	Met	Leu	Leu	Gly 135	Pro	Leu	Leu	Phe	Leu 140	Ala	Суз	His	Leu
Phe 145	Val	Ile	Asn	Met	Asn 150	Glu	Ile	Val	Xaa	Thr 155	Гуз	Glu	Phe	Glu	Gly 160
Asn	Met	Thr	Trp	Lys 165	Ile	Lys	Leu	Lys	Xaa 170	Ala	Met	Tyr	Phe	Ser 175	Asn
Met	Thr	Val	Thr 180	Met	Val	Ala	Asn	Leu 185	Val	Pro	Phe	Thr	Leu 190	Thr	Leu
Leu	Ser	Phe 195	Met	Leu	Leu	Ile	Xaa 200	Ser	Leu	Cys	Lys	His 205	Leu	Lys	Lys
Met	Gln 210	Leu	Xaa	Gly	Lys	Gly 215	Ser	Gln	Asp	Pro	Ser 220	Xaa	Lys	Val	His
Ile 225	Lys	Ala	Leu	Gln	Thr 230	Val	Ile	Ser	Phe	Leu 235	Leu	Leu	Cys	Ala	Ile 240
Tyr	Phe	Leu	Ser	Ile 245	Met	Ile	Ser	Val	Trp 250	Ser	Phe	Gly	Ser	Leu 255	Glu
Asn	Lyś	Pro	Val 260	Phe	Met	Phe	Cys	Lys 265	Ala	Ile	Arg	Phe	Ser 270	Tyr	Pro
Ser	Ile	His 275	Pro	Phe	Ile	Leu	Ile 280	Trp	Gly	Asn	Lys	Lys 285	Leu	Lys	Gln
Thr	Phe 290	Leu	Ser	Val	Xaa	Xaa 295	Gln	Xaa	Arg	Tyr	Trp 300	Val	Lys	Gly	Glu

Lys Thr Ser Ser Pro 305 <210> 33 <211> 930 <212> DNA <213> Homo sapiens <220> <221> CDS <222> (1)..(930) <220> <221> variation <222> (103)..(103) <223> y is t or c <220> <221> variation <222> (484)..(484) <223> w is a or t <220> <221> variation <222> (599)..(599) <223> r is a or g <220> <221> variation <222> (649)..(649) <223> s is g or c <220> <221> variation <222> (680)..(680) <223> y is t or c <220> <221> variation <222> (718)..(718) <223> r is a or g <220> <221> variation <222> (744)..(744) <223> r is a or g <220> <221> variation <222> (827)..(827) <223> s is g or c <220> <221> variation <222> (843)..(843) <223> r is a or g <400> 33

atg aca act ttt ata ccc atc att ttt tcc agt gtg gta gtg gtt cta

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Met 1	Thr	Thr	Phe	Ile 5	Pro	Ile	Ile	Phe	Ser 10	Ser	Val	Val	Val	Val 15	Leu		
ttt Phe	gtt Val	att Ile	gga Gly 20	aat Asn	ttt Phe	gct Ala	aat Asn	ggc Gly 25	ttc Phe	ata Ile	gca Ala	ttg Leu	gta Val 30	aat Asn	tcc Ser		96
att Ile	gag Glu	ygg Xaa 35	gtc Val	aag Lys	aga Arg	caa Gln	aag Lys 40	atc Ile	tct Ser	ttt Phe	gct Ala	gac Asp 45	cag Gln	att Ile	ctc Leu	1	44
act Thr	gct Ala 50	ctg Leu	gcg Ala	gtc Val	tcc Ser	aga Arg 55	gtt Val	ggt Gly	ttg Leu	ctc Leu	tgg Trp 60	gta Val	tta Leu	tta Leu	tta Leu	1	92
aat Asn 65	tgg Trp	tat Tyr	tca Ser	act Thr	gtg Val 70	ttt Phe	aat Asn	cca Pro	gct Ala	ttt Phe 75	tat Tyr	agt Ser	gta Val	gaa Glu	gta Val 80	2	40
aga Arg	act Thr	act Thr	gct Ala	tat Tyr 85	aat Asn	gtc Val	tgg Trp	gca Ala	gta Val 90	acc Thr	ggc Gly	cat His	ttc Phe	agc Ser 95	aac Asn	2	88
tgg Trp	ctt Leu	gct Ala	act Thr 100	agc Ser	ctc Leu	agc Ser	ata Ile	ttt Phe 105	tat Tyr	ttg Leu	ctc Leu	aag Lys	att Ile 110	gcc Ala	aat Asn	3:	36
ttc Phe	tcc Ser	aac Asn 115	ctt Leu	att Ile	ttt Phe	ctt Leu	cac His 120	tta Leu	aag Lys	agg Arg	aga Arg	gtt Val 125	aag Lys	agt Ser	gtc Val	3	84
att Ile	ctg Leu 130	gtg Val	atg Met	ctg Leu	ttg Leu	ggg Gly 135	cct Pro	tta Leu	cta Leu	ttt Phe	ttg Leu 140	gcy Ala	tgt Cys	caa Gln	ctt Leu	4:	32
ttt Phe 145	gtg Val	ata Ile	aac Asn	atg Met	aaa Lys 150	gag Glu	att Ile	gta Val	cgg Arg	aca Thr 155	aaa Lys	gaa Glu	tat Tyr	gaa Glu	gga Gly 160	4:	80
aac Asn	wtg Xaa	act Thr	tgg Trp	aag Lys 165	atc Ile	aaa Lys	ttg Leu	agg Arg	agt Ser 170	gca Ala	gtg Val	tac Tyr	ctt Leu	tca Ser 175	gat Asp	5:	28
gcg Ala	act Thr	gta Val	acc Thr 180	acg Thr	cta Leu	gga Gly	aac Asn	tta Leu 185	gtg Val	ccc Pro	ttc Phe	act Thr	ctg Leu 190	acc Thr	ctg Leu	5	76
cta Leu	tgt Cys	ttt Phe 195	ttg Leu	ctg Leu	tta Leu	atc Ile	trt Xaa 200	tct Ser	ctg Leu	tgt Cys	aaa Lys	cat His 205	ctc Leu	aag Lys	aag Lys	62	24
atg Met	cag Gln 210	ctc Leu	cat His	ggt Gly	aaa Lys	gga Gly 215	tct Ser	saa Xaa	gat Asp	ccc Pro	agc Ser 220	acc Thr	aag Lys	gtc Val	cac His	6	72
ata Ile 225	aaa Lys	gyt Xaa	ttg Leu	caa Gln	act Thr 230	gtg Val	atc Ile	ttt Phe	ttc Phe	ctc Leu 235	ttg Leu	tta Leu	tgt Cys	gcc Ala	rtt Xaa 240	72	20
tac Tyr	ttt Phe	ctg Leu	tcc Ser	ata Ile	atg Met	ata Ile	tcr Xaa	gtt Val	tgg Trp	agt Ser	ttt Phe	GJA aaa	agt Ser	ctg Leu	gaa Glu	76	68

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2	245		250		255	
aac aaa cct gtc t Asn Lys Pro Val E 260	tc atg ttc Phe Met Phe	tgc aaa Cys Lys 265	gct att aga Ala Ile Arg	ttc agc Phe Ser 270		816
tca atc cac csa t Ser Ile His Xaa F 275		att tgr Ile Xaa 280	gga aac aag Gly Asn Lys	aag cta Lys Leu 285	aag cag Lys Gln	864
act ttt ctt tca g Thr Phe Leu Ser V 290 ,	tt ttg cgg o al Leu Arg (295	caa gtg a Gln Val a	agg tac tgg Arg Tyr Trp 300	gtg aaa Val Lys	gga gag Gly Glu	912
aag oot toa tot o Lys Pro Ser Ser P 305	ca tga ro					930
<210> 34 <211> 309 <212> PRT <213> Homo sapier <220> <221> misc_featur					,	
<222> (35)(35) <223> The 'Xaa' a	t location	35 stand	s for Arg,	or Trp.		
<220> <221> misc_featur <222> (162)(162 <223> The 'Xaa' a	e) t location 1	162 stan	ds for Mat	or I au		
<220> <221> misc_feature <222> (200)(200	e					
<220> <221> misc_feature <222> (217)(217) <223> The 'Xaa' at	e)					
<220> <221> misc_feature <222> (227)(227) <223> The 'Xaa' at	.					
<220> <221> misc_feature <222> (240)(240) <223> The 'Xaa' at	1					
<220> <221> misc_feature <222> (248)(248) <223> The 'Xaa' at						
<220> <221> misc_feature						

<222> (276)..(276)

<223> The 'Xaa' at location 276 stands for Arg, or Pro.

<220>

<221> misc_feature

<222> (281)..(281)

<223> The 'Xaa' at location 281 stands for Trp.

<400> 34

Met Thr Thr Phe Ile Pro Ile Ile Phe Ser Ser Val Val Val Leu
1 5 10 15

Phe Val Ile Gly Asn Phe Ala Asn Gly Phe Ile Ala Leu Val Asn Ser 20 25 30

Ile Glu Xaa Val Lys Arg Gln Lys Ile Ser Phe Ala Asp Gln Ile Leu 35 40 45

Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Leu Leu 50 55 60

Asn Trp Tyr Ser Thr Val Phe Asn Pro Ala Phe Tyr Ser Val Glu Val 65 70 75 80

Arg Thr Thr Ala Tyr Asn Val Trp Ala Val Thr Gly His Phe Ser Asn 85 90 95

Trp Leu Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn 100 105 110

Phe Ser Asn Leu Ile Phe Leu His Leu Lys Arg Arg Val Lys Ser Val 115 120 125

Ile Leu Val Met Leu Leu Gly Pro Leu Leu Phe Leu Ala Cys Gln Leu 130 135 140

Phe Val Ile Asn Met Lys Glu Ile Val Arg Thr Lys Glu Tyr Glu Gly 155 150

Asn Xaa Thr Trp Lys Ile Lys Leu Arg Ser Ala Val Tyr Leu Ser Asp 165 170 175

Ala Thr Val Thr Thr Leu Gly Asn Leu Val Pro Phe Thr Leu 180 185 190

Leu Cys Phe Leu Leu Leu Ile Xaa Ser Leu Cys Lys His Leu Lys Lys 195 200 205 Met Gln Leu His Gly Lys Gly Ser Xaa Asp Pro Ser Thr Lys Val His 210 215 220

Ile Lys Xaa Leu Gln Thr Val Ile Phe Phe Leu Leu Cys Ala Xaa 225 230 235 240

Tyr Phe Leu Ser Ile Met Ile Xaa Val Trp Ser Phe Gly Ser Leu Glu 245 250 255

Asn Lys Pro Val Phe Met Phe Cys Lys Ala Ile Arg Phe Ser Tyr Pro 260 265 270

Ser Ile His Xaa Phe Ile Leu Ile Xaa Gly Asn Lys Lys Leu Lys Gln 275 280 285

Thr Phe Leu Ser Val Leu Arg Gln Val Arg Tyr Trp Val Lys Gly Glu 290 295 300

Lys Pro Ser Ser Pro 305

<210> 35

<211> 900

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(900)

<220>

<221> variation

<222> (106)..(106)

<223> k is g or t

<220>

<221> variation

<222> (682)..(682)

<223> w is a or t

<220>

<221> variation

<222> (749)..(749)

<223> r is a or g

<220>

<221> variation

<222> (862)..(862)

<223> y is c or t

<400> 35

atg ata act ttt ctg ccc atc att ttt tcc att cta ata gtg gtt aca

48

									63	/447						1	C1/US	2004/01948
								e Ph	10	,					1	5		
			20				- 110	it gg in Gl 25	Y E1.	ie I	те	Ala	a Le	u Va 30	il A	sn S	er	96
,		35		_	•	,	40		C 56	T P	пе	ATA	Ası 45	o Gl	n II	le L	eu	144
act Thr	gct Ala 50	ctg Leu	gca Ala	gto Val	tco Ser	aga Ara 55	a gt g Va	t gg l Gl	t tt y Le	a ct u Le	tc eu	tgg Trp 60	gta Val	tt Le	a gt u Va	a t	ta eu	192
65					70		× 210	t cca) AT	a Pr 75	ie .	Asn	Ser	· Il	e Gl	u Va 80	al)	240
				85			1	g gca p Ala	90	T TT	.е.	Asn	His	Phe	e Se 95	r As	sn	288
			100					ttte Phe	;	с те	eu .	Leu	Lys	11e	e Al)	a As	n	336
		115					120		. Lyc	, AT	y £	arg	125	гÃs	Se:	r Va	1	384
gtt Val	130					135	-10	neu	neo	ı Pn	e 1 1	.eu	Val	Cys	His	3 Le	u	432
ttt Phe 145					150			-10	112	155	5	ıys	GIU	Tyr	Gli	1 Gl 161	Ϋ́	480
aac (Asn 1				165				9	170	ATC	a M	et	Tyr	Leu	Ser 175	Ası	ו	528
aca a	acg (gta a Val 1	acc a Thr 1 180	atc Ile	cta Leu	gca Ala	aac Asn	tta Leu 185	gtt Val	ccc Pro	to Pi	tc :	act Thr	ctg Leu 190	acc Thr	cto Leu	J 1	576
ata t Ile S	ct t Ser 1	tt c Phe I 195	etg d Leu I	ctg Leu	tta Leu	atc Ile	tgt Cys 200	tct Ser	ctg Leu	tgt Cys	a: L	ys 1	cat His 205	ctc Leu	aaa Lys	aag Lys	Ţ	624
atg o Met G 2	ag o ln I 10	etc c Seu H	at ç lis G	gly i		gga Gly 215	tct Ser	caa Gln	gat Asp	ccc Pro	8 a c	gc a		aag Lys	gtc Val	cac His		672
ata a Ile L 225	aa g ys A	rct w la X	tg c aa G		act of Thr 1 230	gtg Val	acc Thr	tcc Ser	ttc Phe	ctc Leu 235	tt Le	g t eu L	ta d	tgt Cys	gcc Ala	att Ile 240		720
tac t Tyr P	tt c he L	tg t eu S	cc a er I	ta a le 1	atc a [le N	atg Met	tca Ser	gtt Val :	trg Xaa	agt Ser	tt Ph	t g le G	gag a Slu s	agt Ser	ctg Leu			768

		64/447	PCT/US2004/0194
	245	250	255
aac aaa cct gtc	ttc atg ttc tgc gaa	act att aca tta aca	h-4

Asn Lys Pro Val Phe Met Phe Cys Glu Ala Ile Ala Phe Ser Tyr Pro
260 265 270

tca acc cac cca ttc atc ctg att tgg gga aac aag aag cta aag yag
Ser Thr His Pro Phe Ile Leu Ile Trp Gly Asn Lys Leu Lys Xaa
275 280 285

act ttt ctt tca gtt ttg tgg caa atg agg tac tga 900
Thr Phe Leu Ser Val Leu Trp Gln Met Arg Tyr 290 295

<210> 36 <211> 299 <212> PRT

<213> Homo sapiens

<220>
<221> misc_feature
<222> (36)..(36)

<223> The 'Xaa' at location 36 stands for Val, or Phe.

<220>
<221> misc_feature
<222> (228)..(228)

<223> The 'Xaa' at location 228 stands for Met, or Leu.

<220>

<221> misc_feature <222> (250)..(250)

<223> The 'Xaa' at location 250 stands for Trp.

<220>

<221> misc_feature
<222> (288)..(288)

<223> The 'Xaa' at location 288 stands for Gln.

<400> 36

Met Ile Thr Phe Leu Pro Ile Ile Phe Ser Ile Leu Ile Val Val Thr 1 5 10 15

Phe Val Ile Gly Asn Phe Ala Asn Gly Phe Ile Ala Leu Val Asn Ser 20 25 30

Ile Glu Trp Xaa Lys Arg Gln Lys Ile Ser Phe Ala Asp Gln Ile Leu 35 40 45

Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Leu Val Leu 50 60

Asn Trp Tyr Ala Thr Glu Leu Asn Pro Ala Phe Asn Ser Ile Glu Val 65 70 75 80

Arg	Ile	Thr	Ala	Tyr 85	Asn	Val	Trp	Ala	Val 90	Ile	Asn	His	Phe	Ser 95	Asn
-----	-----	-----	-----	-----------	-----	-----	-----	-----	-----------	-----	-----	-----	-----	-----------	-----

Trp Leu Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn 105

Phe Ser Asn Leu Ile Phe Leu His Leu Lys Arg Arg Val Lys Ser Val 120

Val Leu Val Ile Leu Leu Gly Pro Leu Leu Phe Leu Val Cys His Leu 135

Phe Val Ile Asn Met Asn Gln Ile Ile Trp Thr Lys Glu Tyr Glu Gly 150

Asn Met Thr Trp Lys Ile Lys Leu Arg Ser Ala Met Tyr Leu Ser Asn 165 170

Thr Thr Val Thr Ile Leu Ala Asn Leu Val Pro Phe Thr Leu Thr Leu 180 185

Ile Ser Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys 200

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Met Lys Val His 220

Ile Lys Ala Xaa Gln Thr Val Thr Ser Phe Leu Leu Cys Ala Ile 230 235

Tyr Phe Leu Ser Ile Ile Met Ser Val Xaa Ser Phe Glu Ser Leu Glu 245 250 255

Asn Lys Pro Val Phe Met Phe Cys Glu Ala Ile Ala Phe Ser Tyr Pro 260 265

Ser Thr His Pro Phe Ile Leu Ile Trp Gly Asn Lys Lys Leu Lys Xaa 275

Thr Phe Leu Ser Val Leu Trp Gln Met Arg Tyr 290

<210> 37

<211> 929

<212> DNA <213> Homo sapiens

<22 <22 <22	1>	CDS (1).	. (92	7)			_									
<40 atg Met 1	ata	37 act Thr	ttt Phe	ctg Leu 5	ccc Pro	atc Ile	att Ile	ttt Phe	tcc Ser 10	att Ile	cta Leu	ata Ile	gtg Val	gtt Val 15	ata Ile	48
ttt Phe	gtt Val	att Ile	gga Gly 20	aat Asn	ttt Phe	gct Ala	aat Asn	ggc Gly 25	ttc Phe	ata Ile	gca Ala	ttg Leu	gta Val 30	aat Asn	tcc Ser	96
att Ile	gag Glu	tgg Trp 35	gtc Val	aag Lys	aga Arg	caa Gln	aag Lys 40	atc Ile	tcc Ser	ttt Phe	gtt Val	gac Asp 45	caa Gln	att Ile	ctc Leu	144
act Thr	gct Ala 50	ctg Leu	gcg Ala	gtc Val	tcc Ser	aga Arg 55	gtt Val	ggt Gly	ttg Leu	ctc Leu	tgg Trp 60	gtg Val	tta Leu	tta Leu	cta Leu	192
cat His 65	tgg Trp	tat Tyr	gca Ala	act Thr	cag Gln 70	ttg Leu	aat Asn	cca Pro	gct Ala	ttt Phe 75	tat Tyr	agt Ser	gta Val	gaa Glu	gta Val 80	240
aga Arg	att Ile	act Thr	gct Ala	tat Tyr 85	aat Asn	gtc Val	tgg Trp	gca Ala	gta Val 90	acc Thr	aac Asn	cat His	ttc Phe	agc Ser 95	agc Ser	288
LLP	neu	AIA	100	ser	теп	ser	мет	105	Tyr	Leu	Leu	agg Arg	Ile 110	Ala	Asn	336
2110	per	115	neu	TIE	rne	ьeu	120	ITE	Lys	Arg	Arg	gtt Val 125	Lys	Ser	Val	384
, 44	130	vai	116	ъец	neu	135	Pro	Leu	Leu	Phe	Leu 140	gtt Val	Cys	His	Leu	432 ·
ttt Phe 145	gtg Val	ata Ile	aac Asn	atg Met	gat Asp 150	gag Glu	act Thr	gta Val	tgg Trp	aca Thr 155	aaa Lys	gaa Glu	tat Tyr	gaa Glu	gga Gly 160	480
aac Asn	gtg Val	act Thr	tgg Trp	aag Lys 165	atc Ile	aaa Lys	ttg Leu	agg Arg	agt Ser 170	gca Ala	atg Met	tac Tyr	cat His	tca Ser 175	aat Asn	528
nec	IIIL	ьец	180	Met	ren	Ala	Asn	Phe 185	Val	Pro	Leu	act Thr	Leu 190	Thr	Leu	576
	Der	195	neu	ъец	neu	TTE	200	ser	Leu	Cys	Lys	cat His 205	Leu	Lys	Lys	624
atg Met	cag Gln	ctc Leu	cat His	ggc Gly	aaa Lys	gga Gly	tct Ser	caa Gln	gat Asp	ccc Pro	agc Ser	acc Thr	aag Lys	gtc Val	cac His	672

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	21	0				215					220					
	ata aa Ile Ly 225	a gct s Ala	ttg Leu	caa Gln	act Thr 230	gtg Val	acc Thr	tcc Ser	ttt Phe	ctt Leu 235	ctg Leu	tta Leu	tgt Cys	gcc Ala	att Ile 240	720
	tac tt Tyr Ph	t cto e Lev	tcc Ser	atg Met 245	atc Ile	ata Ile	tca Ser	gtt Val	tgt Cys 250	aat Asn	ttt Phe	GJ A aaa	agg Arg	ctg Leu 255	gaa Glu	768
	aag ca Lys Gl	a cct n Pro	gtc Val 260	rne	atg Met	ttc Phe	tgc Cys	caa Gln 265	gct Ala	att Ile	ata Ile	ttc Phe	agc Ser 270	tat Tyr	cct Pro	816
	tca ac Ser Th	c cac r His 275	Pro	ttc Phe	atc Ile	ctg Leu	att Ile 280	ttg Leu	gga Gly	aac Asn	aag Lys	aag Lys 285	cta Leu	aag Lys	cag Gln	864
	att tt Ile Ph 29	е пел	tca Ser	gtt Val	ttg Leu	cgg Arg 295	cat His	gtg Val	agg Arg	tac Tyr	tgg Trp 300	gtg Val	aaa Ļys	gac Asp	aga Arg	912
	agc ct Ser Le 305	t cgt u Arg	ctc Leu	cat His	ga											929
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	Phe Va	l İle	Gly 20	Asn	Phe	Ala	Asn	Gly 25	Phe	Ile	Ala	Leu	Val 30	Asn	Ser	
	Ile Gl	ı Trp 35	Val	Lys	Arg	Gln	Lys 40	Ile	Ser	Phe	Val	Asp 45	Gln	Ile	Leu	
	Thr Al.	a Leu	Ala	Val	Ser	Arg 55	Val	Gly	Leu	Leu	Trp 60	Val	Leu	Leu	Leu	
	His Tr	o Tyr	Ala	Thr	Gln 70	Leu	Asn	Pro	Ala	Phe 75	Tyr	Ser	Val	Glu	Val 80	
	Arg Il	e Thr	Ala	Tyr 85	Asn	Val	Trp	Ala	Val 90	Thr	Asn	His	Phe	Ser 95	Ser	
	Trp Le	ı Ala	Thr 100	Ser	Leu	Ser	Met	Phe 105	Tyr	Leu	Leu	Arg	Ile 110	Ala	Asn	

Phe Ser Asn Leu Ile Phe Leu Arg Ile Lys Arg Arg Val Lys Ser Val 115 120 125

Val Leu Val Ile Leu Leu Gly Pro Leu Leu Phe Leu Val Cys His Leu 130 135 140

Phe Val Ile Asn Met Asp Glu Thr Val Trp Thr Lys Glu Tyr Glu Gly 155 160

Asn Val Thr Trp Lys Ile Lys Leu Arg Ser Ala Met Tyr His Ser Asn 165 170 175

Met Thr Leu Thr Met Leu Ala Asn Phe Val Pro Leu Thr Leu Thr Leu 180 185 190

Ile Ser Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys 195 200 205

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His 210 215 220

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Leu Cys Ala Ile 225 230 235 240

Tyr Phe Leu Ser Met Ile Ile Ser Val Cys Asn Phe Gly Arg Leu Glu 245 250 255

Lys Gln Pro Val Phe Met Phe Cys Gln Ala Ile Ile Phe Ser Tyr Pro 260 265 270

Ser Thr His Pro Phe Ile Leu Ile Leu Gly Asn Lys Leu Lys Gln 275 280 285

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ttt gtt ctt gga aat gtt gcc aat ggc ttc ata gcy cta gta aat rtc
Phe Val Leu Gly Asn Val Ala Asn Gly Phe Ile Ala Leu Val Asn Xaa
                                                                        96
att gac tgg gtt aac aca cga aag atc tcc tca gct gag caa att ctc
Ile Asp Trp Val Asn Thr Arg Lys Ile Ser Ser Ala Glu Gln Ile Leu
                                                                       144
                             40
                                                 45
act gct ctg gtg gtc tcc aga att ggt tta ctc tgg gtc atg tta ttc
                                                                       192
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Thr	Ala 50	Le	u Va	l Va	l Se	r Ar 55	g Il	e Gl	y Le	u Le	u Tı 60	p Va	al Me	et I	eu	Phe	
65					70			t tc n Se	r vi	75	u Ty	r G1	.у Ь€	eu G	lu	Val 80	240
				85				g gct p Ala	90	L 111.	r As	n Hi	s Pr	ie S 9	er 5	Met	288
			100)				a ttt e Phe 105	i i	з тел	у ге	u Xa	a Il 11	е А. О	la	Asn	336
ttc Phe	tcc Ser	aac Asr 115	ctt Leu 5	att 1 Ile	tct Sei	t cto Lev	cac His 120	c cta s Leu)	aaç Lys	J aag Lys	j ag	a at g Il	е Lу	g ag s Se	gt er	gtt Val	384
gtt Val	ctg Leu 130	gtç Val	g ata . Ile	cto Lev	tto Lev	g ggg Gly 135		ttg Leu	gta Val	ttt. Phe	yte Xa:	a ITe	t tg e Cy	t aa s As	at sn	ctt Leu	432
145					150	+		øtg Val	1-5	155	ηζε	s GT/	ту:	r Gl	.u	Gly 160	480
				165		-1-		agg Arg	170	ALA	±T€	His	5 Let	1 Se 17	r 5	Ser	528
			180				1.011	100	TTG	Pro	Phe	Thr	Let 190	ı Se	r	Leu	576
ata Ile		195					200	Det	neu	Cys	туѕ	His 205	Leu	Ly	s 1	Ys	624
atg d Met 1	agg Arg : 210	ctc Leu	cat His	agc Ser	aaa Lys	gga Gly 215	tct Ser	caa Gln	gat Asp	ccc Pro	agc Ser 220	acc Thr	aag Lys	gt. Va	c c	cat Mis	672
rta a Xaa I 225	aaa (Lys 1	gct Ala	ttg Leu	caa Gln	act Thr 230	gtg Val	acc Thr	tcc Ser	Fue	ctc Leu 235	atg Met	tta Leu	ttt Phe	gco Ala	Σ£	yt aa 40	720
tac t Tyr F	tt d he I	etg Seu	tgt Cys	ata Ile 245	atc Ile	aca Thr	tca Ser	TILL	tgg Trp 250	aat Asn	ctt Leu	agg Arg	aca Thr	Cac Glr 255	ı G	ag ln	768
agc a Ser L	aa c ys I	eu	gta Val 260	ctc Leu	ctg Leu	ctt Leu	CYS	caa Gln 265	act Thr	stt Xaa	gca Ala	atc Ile	atg Met 270	tat Tyr	c P	ct ro	816
tca t Ser P	tc c he H 2	ac is 75	tca Ser	ttc Phe	atc Ile		att Ile 280	atg (Met (gga a Gly a	agt Ser .	agg Arg	aag Lys 285	cta Leu	aaa Lys	G.	ag ln	864
acc to	tt c he L	tt · eu :	tca (Ser)	gtt Val :	ttg Leu :	tgr (Xaa (cag Gln 1	atg a Met :	aca y Thr }	ygc Kaa	tga						900

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290

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 <223> The 'Xaa' at location 140 stands for Leu.
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<223> The 'Xaa' at location 152 stands for Arg, or Ser.
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<223> The 'Xaa' at location 240 stands for Thr, or Ile.
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<223> The 'Xaa' at location 267 stands for Val, or Leu.
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<223> The 'Xaa' at location 295 stands for Trp.
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<223> The 'Xaa' at location 299 stands for Arg, or Cys.
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Thr	Ala 50	Leu	Val	Val	Ser	Arg 55	Ile	GľÀ	Leu	Leu	Trp 60	Val	Met	Leu	Phe
Leu 65	Trp	Tyr	Ala	Thr	Val 70	Phe	Asn	Ser	Ala	Leu 75	Tyr	Gly	Leu	Glu	Val 80
Arg	Ile	Val	Ala	Ser 85	Asn	Ala	Trp	Ala	Val 90	Thr	Asn	His	Phe	Ser 95	Met
Trp	Leu	Ala	Ala 100	Ser	Leu	Ser	Ile	Phe 105	Суз	Leu	Leu	Xaa	Ile 110	Ala	Asn ,
Phe	Ser	Asn 115	Leu	Ile	Ser	Leu	His 120	Leu	Lys	Lys	Arg	Ile 125	Lys	Ser	Val
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Asn	Val	Thr	Trp	Lys 165	Ile	Lys	Leu	Arg	Asn 170	Ala	Ile	His	Leu	Ser 175	Ser
Leu	Thr	Val	Thr 180	Thr	Leu	Ala	Asn	Leu 185	Ile	Pro	Phe	Thr	Leu 190	Ser	Leu
Ile	Суз	Phe 195	Leu	Leu	Leu	Ile	Cys 200	Ser	Leu	Суз	Lys	His 205	Leu	Lys	Lys
Met	Arg 210	Leu	His	Ser	Lys	Gly 215	Ser	Gln	Asp	Pro	Ser 220	Thr	Lys	Val	His

Tyr Phe Leu Cys Ile Ile Thr Ser Thr Trp Asn Leu Arg Thr Gln Gln 250

Xaa Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Met Leu Phe Ala Xaa

235

225

230

Ser Lys Leu Val Leu Leu Cys Gln Thr Xaa Ala Ile Met Tyr Pro 265

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att Ile	gco Ala	tgg Trp 35	gto Val	aaq Lys	g aga Arg	a caa g Glr	a aag a Lys 40	g ato s Ile	c too e Sei	c tca c Sea	a gc	t gat a Asp 45	caa Gli	a at	t att e Ile	14	4
gct Ala	gct Ala 50	ctg Leu	gcr Ala	gto Val	tco Ser	aaa Lys 55	gtt Val	ggt Gly	tto Lei	g cto 1 Lei	tgg Trp 60	g gta P Val	ata . Ile	a tta	a tta ı Leu	19:	2
cat His 65	tgg Trp	tat Tyr	tca Ser	act Thr	gtg Val 70	ttg Leu	aat Asn	cca Pro	act Thr	tca Ser 75	tct Ser	aat Asn	tta Leu	a aaa a Lys	a gta 5 Val 80	240	0
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tgg Trp	ctt Leu	gct Ala	act Thr 100	agc Ser	ctc Leu	agc Ser	ata Ile	ttt Phe 105	тут	ttg Leu	cto Leu	: aag Lys	ato Ile 110	Val	aat Asn	336	5
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gtt Val	ctg Leu 130	gtg Val	ata Ile	gtg Val	ttg Leu	ggg Gly 135	tct Ser	ttg Leu	ttc Phe	ttt Phe	ttg Leu 140	Xaa	tgt Cys	cam Xaa	ctt Leu	.432	:
gtg Val 145	atg Met	aaa Lys	mac Xaa	acg Thr	tat Tyr 150	ata Ile	aat Asn	gtg Val	tgg Trp	aca Thr 155	gaa Glu	gaa Glu	tgt Cys	gaa Glu	gga Gly 160	480	
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ata Ile	tct Ser	ttt Phe 195	ctg Leu	ctg Leu	tta Leu	atc Ile	tac Tyr 200	tct Ser	ctg Leu	tgt Cys	aaa Lys	cat His 205	ctg Leu	aag Lys	aag Lys	624	
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ata i Ile i 225	aaa Lys	gct Ala i	ctg Leu		act Thr 230	gtg Val	acc Thr	tcc Ser	ttc Phe	ctc Leu 235	rta Xaa	tta Leu	ctt Leu	gcc Ala	att Ile 240	720	
tac t Tyr 1	ttt Phe	ctg (Leu (tgt (Cys)	cta Leu	atc :	ata, Ile	tcg Ser	ttt Phe	tgg Trp	aat Asn	tyt Xaa	aag Lys :	atg Met	cka Xaa		768	

WO 2005/007891 PCT/US2004/019489 75/447 245 250 aaa gaa att gtc tta atg ctt tgc caa gct ttt gga atc rta tat cca

816 Lys Glu Ile Val Leu Met Leu Cys Gln Ala Phe Gly Ile Xaa Tyr Pro 260 265

tca ttc cac tca ttc att ctg att tgg ggg aac aag acg cta aag cag 864 Ser Phe His Ser Phe Ile Leu Ile Trp Gly Asn Lys Thr Leu Lys Gln

acc ttt ctt tca gtt ttg tgg cag gtg act tgc tgg gca aaa gga cag 912 Thr Phe Leu Ser Val Leu Trp Gln Val Thr Cys Trp Ala Lys Gly Gln 295

aac cag tca act cca tag 930 Asn Gln Ser Thr Pro 305

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<223> The 'Xaa' at location 255 stands for Arg, or Leu.

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<222> (270)..(270)

<223> The 'Xaa' at location 270 stands for Val, or Ile.

<400> 42

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Ile Ala Trp Val Lys Arg Gln Lys Ile Ser Ser Ala Asp Gln Ile Ile 35 40 45

Ala Ala Leu Ala Val Ser Lys Val Gly Leu Leu Trp Val Ile Leu Leu 50 60

His Trp Tyr Ser Thr Val Leu Asn Pro Thr Ser Ser Asn Leu Lys Val 65 70 75 80

Ile Ile Phe Ile Ser Asn Ala Trp Ala Val Thr Asn His Phe Ser Ile 85 90 95

Trp Leu Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Val Asn 100 105 110

Phe Ser Arg Leu Ile Phe His His Leu Lys Arg Lys Ala Lys Ser Val 115 120 125

Val Leu Val Ile Val Leu Gly Ser Leu Phe Phe Leu Xaa Cys Xaa Leu 130 135 140

Val Met Lys Xaa Thr Tyr Ile Asn Val Trp Thr Glu Glu Cys Glu Gly 145 150 155 160

Asn Val Thr Trp Lys Ile Lys Leu Arg Asn Ala Xaa His Leu Ser Asn 165 170 175

Leu Thr Val Ala Met Leu Ala Asn Leu Ile Pro Phe Thr Leu Thr Leu 180 185 190

Ile Ser Phe Leu Leu Leu Ile Tyr Ser Leu Cys Lys His Leu Lys Lys 195 200 205

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Ile His 210 220

ì

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Ile 225	Lys	Ala	Leu	Gln	Thr 230	Val	Thr	Ser	Phe	Leu 235	Xaa	Leu	Leu	Ala	Ile 240	
Tyr	Phe	Leu	Cys	Leu 245	Ile	Ile	Ser	Phe	Trp 250	Asn	Xaa	Lys	Met	Xaa 255	Pro	
Lys	Glu	Ile	Val 260	Leu	Met	Leu	Суз	Gln 265	Ala	Phe	Gly	Ile	Xaa 270	Tyr	Pro	
Ser	Phe	His 275	Ser	Phe	Ile	Leu	Ile 280	Trp	Gly	Asn	Lys	Thr 285	Leu	Lys	Gln	
Thr	Phe 290	Leu	Ser	Val	Leu	Trp 295	Gln	Val	Thr	Cys	Trp 300	Ala	Lys	Gly	Gln	
Asn 305	Gln	Ser	Thr	Pro												
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-00	0.															
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			100					105					110			
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att Ile	ctg Leu 130	gtg Val	ata Ile	ctg Leu	ttg Leu	ggg Gly 135	act Thr	ttg Leu	ata Ile	ttt Phe	ttg Leu 140	gtt Val	tgt Cys	cat His	ctt Leu	432
ctt Leu 145	gtg Val	gca Ala	aac Asn	atg Met	gat Asp 150	gag Glu	agt Ser	atg Met	tgg Trp	gca Ala 155	gaa Glu	gaa Glu	tat Tyr	gaa Glu	gga Gly 160	480
aac Asn	atg Met	act Thr	GJ Å aaa	aag Lys 165	atg Met	aaa Lys	ttg Leu	agg Arg	aat Asn 170	aca Thr	gta Val	cat His	ctt Leu	tca Ser 175	tat Tyr	528
ttg Leu	act Thr	gta Val	act Thr 180	acc Thr	cta Leu	tgg Trp	agc Ser	ttc Phe 185	ata Ile	ccc Pro	ttt Phe	act Thr	ctg Leu 190	tcc Ser	ctg Leu	576
ata Ile	tct Ser	ttt Phe 195	ctg Leu	atg Met	cta Leu	atc Ile	tgt Cys 200	tct Ser	ctg Leu	tat Tyr	aaa Lys	cat His 205	ctc Leu	aag Lys	aag Lys	624
atg Met	cag Gln 210	ctc Leu	cat His	gga Gly	gaa Glu	gga Gly 215	tcg Ser	caa Gln	gat Asp	ctc Leu	agc Ser 220	acc Thr	aag Lys	gtc Val	cac His	672
ata Ile 225	aaa Lys	gct Ala	ttg Leu	caa Gln	act Thr 230	ctg Leu	atc Ile	tcc Ser	ttc Phe	ctc Leu 235	ttg Leu	tta Leu	tgt Cys	gcc Ala	att Ile 240	720
ttc Phe	ttt Phe	cta Leu	ttc Phe	cta Leu 245	atc Ile	gtt Val	tcg Ser	gtt Val	tgg Trp 250	agt Ser	cct Pro	agg Arg	agg Arg	ctg Leu 255	cgg Arg	768
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gca Ala	ttc Phe	gac Asp 275	tca Ser	ttc Phe	atc Ile	cta Leu	att Ile 280	tgg Trp	aga Arg	acc Thr	aag Lys	aag Lys 285	cta Leu	aaa Lys	cac His	864
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									13144	• /					
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Ile	Asp	Trp 35	Val	Lys	Arg	Lys	Lys 40	Ile	Ser	Ser	Ala	Asp 45	Gln	lle	Leu
Thr	Ala 50	Leu	Ala	Val	Ser	Arg 55	Ile	Gly	Leu	Leu	Trp	Ala	Leu	Leu	Leu
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Arg	Ile	Thr	Ser	Tyr 85	Asn	Ala	Trp	Val	Val 90	Thr	Asn	His	Phe	Ser 95	Met
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Phe	Ser	Asn 115	Leu	Leu	Phe	Leu	His 120	Leu	Lys	Arg	Arg	Val 125	Arg	Ser	Val
Ile	Leu 130	Val	Ile	Leu	Leu	Gly 135	Thr	Leu	Ile	Phe	Leu 140	Val	Cys	His	Leu
Leu 145	Val	Ala	Asn	Met	Asp 150	Glu	Ser	Met	Trp	Ala 155	Glu	Glu	Tyr	Glu	Gly 160
Asn	Met	Thr	Gly	Lys 165	Met	Lys	Leu	Arg	Asn 170	Thr	Val	His	Leu	Ser 175	Tyr
Leu	Thr	Val	Thr 180	Thr	Leu	Trp	Ser	Phe 185	Ile	Pro	Phe	Thr	Leu 190	Ser	Leu
Ile	Ser	Phe 195	Leu	Met	Leu	Ile	Cys 200	Ser	Leu	Tyr	Lys	His 205	Leu	Lys	Lys
Met	Gln 210	Leu	His	Gly	Glu	Gly 215	Ser	Gln	Asp	Leu	Ser 220	Thr	Lys	Val	His
Ile 225	Lys	Ala	Leu	Gln	Thr 230	Leu	Ile	Ser	Phe	Leu 235	Leu	Leu	Cys	Ala	Ile 240

Phe Phe Leu Phe Leu Ile Val Ser Val Trp Ser Pro Arg Arg Leu Arg 245 250 . 255

Asn Asp Pro Val Val Met Val Ser Lys Ala Val Gly Asn Ile Tyr Leu 265

Ala Phe Asp Ser Phe Ile Leu Ile Trp Arg Thr Lys Lys Leu Lys His 280

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432

									01, 11	•							
Val	Phe 130	Phe	Trp	Leu	Lys	His 135	Lys	Leu	Ser	Gly	Trp	Leu	Pro	Trp	Met		
145					150	Deu	Ser	ser	Pne	155	Thr	Ile	Leu	Phe	ttc Phe 160		480
	-			165		-3-	GIII	ASII	170	ьeu	Arg	Asn	His	Leu 175			528
			180		OLY	rsp	ser	185	Arg	Ser	Tyr	Cys	gag Glu 190	Lys	Phe		576
		195			270	21.00	200	Inr	тър	Tnr	Met	Pro 205	act Thr	Ala	Val		624
	210		-10	1100	++C	215	пеп	тте	Thr	Ser	Leu 220	Gly	aga Arg	His	Arg		672
225	_	_		Lou	230	1111	ser	стХ	Pne	Arg 235	Glu	Pro	agt Ser	Val	Gln 240	•	720
			-1-	245	Deu	Бец	ATA	ьец	250	ser	Phe	Ala	atg Met	Leu 255	Phe	7	768
		_	260			iii d	val	265	ser	Ата	Ala	Gly	att Ile 270	Phe	Pro	8	316
		275		-1-	20	тър	280	тъ	GIU	ser	Val	11e 285		Leu	Cys	8	64
	290				116	295	ьец	Leu	Pne	Ser	Asn 300	Суз	Arg	Leu	aga Arg	9	12
gct Ala 305	gtg Val ;	ctg : Leu :	aag Lys	agt Ser	cgy Arg 310	cgt Arg	tcc Ser	tca Ser	Arg	tgt Cys 315	GJA , aaa	aca Thr	cct Pro	tga		9	57
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Ala Gly Asn Gly Phe Ile Thr Ala Ala Leu Gly Val Glu Trp Val Leu 35 40 45

Arg Arg Met Leu Leu Pro Cys Asp Lys Leu Leu Val Ser Leu Gly Ala 50 55 60

Ser Arg Phe Cys Leu Gln Ser Val Val Met Gly Lys Thr Ile Tyr Val 65 70 75 80

Phe Leu His Pro Met Ala Phe Pro Tyr Asn Pro Val Leu Gln Phe Leu 85 90 95

Ala Phe Gln Trp Asp Phe Leu Asn Ala Ala Thr Leu Trp Ser Ser Thr 100 105 110

Trp Leu Ser Val Phe Tyr Cys Val Lys Ile Ala Thr Phe Thr His Pro 115 120 125

Val Phe Phe Trp Leu Lys His Lys Leu Ser Gly Trp Leu Pro Trp Met 130 135 140

Leu Phe Ser Ser Val Gly Leu Ser Ser Phe Thr Thr Ile Leu Phe Phe 145 150 155 160

Ile Gly Asn His Arg Met Tyr Gln Asn Tyr Leu Arg Asn His Leu Gln 165 170 175

Pro Trp Asn Val Thr Gly Asp Ser Ile Arg Ser Tyr Cys Glu Lys Phe 180 ' 185 190

Tyr Leu Phe Pro Leu Lys Xaa Ile Thr Trp Thr Met Pro Thr Ala Val 195 200 205

Phe Phe Ile Cys Met Ile Leu Leu Ile Thr Ser Leu Gly Arg His Arg 210 220

Lys Lys Ala Leu Leu Thr Thr Ser Gly Phe Arg Glu Pro Ser Val Gln 225 230 235 240

Ala His Ile Lys Ala Leu Leu Ala Leu Leu Ser Phe Ala Met Leu Phe 245 250 255

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Ile Se	r Tyr	Phe 260	. Leu	Ser	Leu	Val	Phe 265	Ser	Ala	Ala	Gly	Ile 270	Phe	Pro	
Pro Le	u Asp 275	Phe	Lys	Phe	Trp	Val 280	Trp	Glu	Ser	Val	Ile 285	Tyr	Leu	Суз	
Ala Al 29	a Val O	. His	Pro	Ile	Ile 295	Leu	Leu	Phe	Ser	Asn 300	Суз	Arg	Leu	Arg	
Ala Va 305	l Leu	Lys	Ser	Arg 310	Arg	Ser	Ser	Arg	Cys 315		Thr	Pro			ì
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ttt cti Phe Lei	t ctt 1 Leu	ggg Gly 20	att Ile	ttc Phe	aca Thr	aat Asn	ggc Gly 25	atc Ile	att Ile	gtg Val	gtg Val	gtg Val 30	aat Asn	ggc Gly	96 ·
att gad Ile Asp	ttg Leu 35	atc Ile	aag Lys	cac His	aga Arg	aaa Lys 40	atg Met	gct Ala	ccg Pro	ctg Leu	gat Asp 45	ctc Leu	ctt Leu	ctt Leu	144
tct tgt Ser Cys 50	ctg Leu	gca Ala	gtt Val	tct Ser	aga Arg 55	att Ile	ttt Phe	ctg Leu	cag Gln	ttg Leu 60	ttc Phe	atc Ile	ttc Phe	tac Tyr	192
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				85					90					95		
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cca Pro	ctc Leu	ttc Phe 115	atc Ile	tgg Trp	ttg Leu	aag Lys	atg Met 120	agg Arg	ata Ile	tcc Ser	aag Lys	ctg Leu 125	gtc Val	cca Pro	tgg Trp	384
atg Met	atc Ile 130	ctg Leu	G]A aaa	tct Ser	ctg Leu	cta Leu 135	tat Tyr	gta Val	tct Ser	atg Met	att Ile 140	tgt Cys	gtt Val	ttc Phe	cat His	432
agc Ser 145	aaa Lys	tat Tyr	gca Ala	GJ A Gaa	ttt Phe 150	atg Met	gtc Val	cca Pro	tac Tyr	ttc Phe 155	cta Leu	agg Arg	aaa Lys	ttt Phe	ttc Phe 160	480
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1124	val	195	тей	пеп	att Ile	rne	200	ьеи	СТĀ	Arg	His	Thr 205	Arg	Gln	Met	624
1129	210	TIIL	var	ATA	Gly ggc	215	Arg	val	Pro	Gly	Arg 220	Gly	Ala	Pro	Ile	672
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Cys	Met	TTE	пÀ2	245	ttt Phe	Leu	Ser	Ser	Leu 250	Lys	Phe	His	Ile	Arg 255	Arg	768
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1123	Ser	275	тте	ьец	att Ile	Leu	280 280	Asn	Pro	Lys	Leu	aaa Lys 285	caa Gln	aat Asn	gca Ala	864
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# WO 2005/007891 PCT/US2004/019489

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Phe	Leu	Lev	20 Gly	' Ile	Phe	. Thr	: Asn	Gly 25	'Ile	: Ile	Val	Val	Val 30	. Asn	Gly
Ile	Asp	Leu 35	ı Ile	Lys	His	Arg	Lys 40	Met	Ala	Pro	Leu	Asp 45	Leu	Leu	Leu
Ser	Cys 50	Leu	ı Ala	Val	. Ser	Arg 55	Ile	Phe	Leu	Gln	Leu 60	Phe	Ile	Phe	Tyr
Val 65	Asn	Val	Ile	Val	Ile 70	Phe	Phe	Ile	Glu	Phe 75	Ile	Met	Cys	Ser	Ala 80
Asn	Cys	Ala	Ile	Leu 85	Leu	Phe	Ile	Asn	Glu 90	Leu	Glu	Leu	Trp	Leu 95	Ala
Thr	Trp	Leu	Gly 100	Val	Phe	Tyr	Cys	Ala 105	Lys	Val	Ala	Ser	Val 110	Arg	His
Pro	Leu	Phe 115	Ile	Trp	Leu	Lys	Met 120	Arg	Ile	Ser	Lys	Leu 125	Val	Pro	Trp
Met	Ile 130	Leu	Gly	Ser	Leu	Leu 135	Tyr	Val	Ser	Met	Ile 140	Cys	Val	Phe	His
Ser 145	Lys	Tyr	Ala	Gly	Phe 150	Met	Val	Pro	Tyr	Phe 155	Leu	Arg	Lys	Phe	Phe 160
Ser	Gln	Asn	Ala	Thr 165	Ile	Gln	Lys	Glu	Asp 170	Thr	Leu	Ala	Ile	Gln 175	Ile
Phe	Ser	Phe	Val 180	Ala	Glu	Phe	Ser	Val 185	Pro	Leu	Leu	Ile	Phe 190	Leu	Phe
Ala	Val	Leu 195	Leu	Leu	Ile	Phe	Ser 200	Leu	Gly	Arg	His	Thr 205	Arg	Gln	Met
Arg .	Asn 210	Thr	Val	Ala	Gly	Ser 215	Arg	Val	Pro	Gly	Arg 220	Gly	Ala	Pro	Ile
Ser 2 225	Ala	Leu	Leu	Ser	Ile 230	Leu	Ser	Phe	Leu	Ile 235	Leų	Tyr	Phe	Ser	His 240

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Cys Met Ile Lys Val Phe Leu Ser Ser Leu Lys Phe His Ile Arg Arg 245 250 Phe Ile Phe Leu Phe Phe Ile Leu Val Ile Gly Ile Tyr Pro Ser Gly 260 265 His Ser Leu Ile Leu Gly Asn Pro Lys Leu Lys Gln Asn Ala 280 Lys Lys Phe Leu Leu His Ser Lys Cys Cys Gln 290 295 <210> 49 <211> 900 <212> DNA <213> homo sapiens <220> <221> CDS <222> (1)..(900) <220> <221> variation <222> (332)..(332) <223> SNP <220> <221> variation <222> (616)..(616) <223> SNP <400> 49 atg cta gag tct cac ctc att atc tat ttt ctt ctt gca gtg ata caa Met Leu Glu Ser His Leu Ile Ile Tyr Phe Leu Leu Ala Val Ile Gln 48 ttt ctt ctt ggg att ttc aca aat ggc atc att gtg gtg gtg aat ggc Phe Leu Leu Gly Ile Phe Thr Asn Gly Ile Ile Val Val Asn Gly 96 20 att gac ttg atc aag cac aga aaa atg gct ccg ctg gat ctc ctt ctt Ile Asp Leu Ile Lys His Arg Lys Met Ala Pro Leu Asp Leu Leu 144 35 40 tct tgt ctg gca gtt tct aga att ttt ctg cag ttg ttc atc ttc tac Ser Cys Leu Ala Val Ser Arg Ile Phe Leu Gln Leu Phe Ile Phe Tyr 192 50 55 gtt aat gtg att gtt atc ttc ttc ata gaa ttc atc atg tgt tct gcg Val Asn Val Ile Val Ile Phe Phe Ile Glu Phe Ile Met Cys Ser Ala 240 65 70 aat tgt gca att ctc tta ttt ata aat gaa ttg gaa ctt tgg ctt gcc Asn Cys Ala Ile Leu Leu Phe Ile Asn Glu Leu Glu Leu Trp Leu Ala 288 90

aca Thi	tgg Trp	cto Leu	ggc Gly 100		ttc Phe	tat Tyr	tgt Cys	gcc Ala 105	гÃз	gtt Val	gcc Ala	agc Ser	gtc Val 110	Arg	cac His	336
Pro	ctc Leu	ttc Phe 115		tgg Trp	ttg Leu	aag Lys	atg Met 120	Arg	ata Ile	tcc Ser	aag Lys	ctg Leu 125	gtc Val	cca Pro	tgg Trp	384
atg Met	atc Ile 130	ctg Leu	GJ À aaa	tct Ser	ctg Leu	cta Leu 135	tat Tyr	gta Val	tct Ser	atg Met	att Ile 140	tgt Cys	gtt Val	ttc Phe	cat His	432
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			180	*****	GIU	FILE	ser	185	Pro	Leu	Leu	atc Ile	Phe 190	Leu	Phe	576
		195				1110	200	Бец	стА	Arg	His	acc Thr 205	Trp	Gln	Met	624
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tgc Cys	atg Met	ata Ile	aaa Lys	gtt Val 245	ttt Phe	ctc Leu	tct Ser	tct Ser	cta Leu 250	aag Lys	ttt Phe	cac His	Ile	aga Arg 255	agg Arg	768
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cac His	tct Ser	ctc Leu 275	atc Ile	tta Leu	att Ile	neu	gga Gly 280	aat Asn	cct Pro	aaa Lys	ttg Leu	aaa Lys 285	caa Gln	aat Asn	gca Ala	864
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Ile Asp Leu Ile Lys His Arg Lys Met Ala Pro Leu Asp Leu Leu Leu 35 40 45

Ser Cys Leu Ala Val Ser Arg Ile Phe Leu Gln Leu Phe Ile Phe Tyr 50 55 60

Val Asn Val Ile Val Ile Phe Phe Ile Glu Phe Ile Met Cys Ser Ala
65 70 75 80

Asn Cys Ala Ile Leu Leu Phe Ile Asn Glu Leu Glu Leu Trp Leu Ala 85 90 95

Thr Trp Leu Gly Val Phe Tyr Cys Ala Lys Val Ala Ser Val Arg His 100 105 110

Pro Leu Phe Ile Trp Leu Lys Met Arg Ile Ser Lys Leu Val Pro Trp 115 120 125

Met Ile Leu Gly Ser Leu Leu Tyr Val Ser Met Ile Cys Val Phe His 130 135 140

Ser Lys Tyr Ala Gly Phe Met Val Pro Tyr Phe Leu Arg Lys Phe Phe 145 150 155 160

Ser Gln Asn Ala Thr Ile Gln Lys Glu Asp Thr Leu Ala Ile Gln·Ile 165 170 175

Phe Ser Phe Val Ala Glu Phe Ser Val Pro Leu Leu Ile Phe Leu Phe 180 180 185 185 190

Ala Val Leu Leu Ile Phe Ser Leu Gly Arg His Thr Trp Gln Met 195 200 205

Arg Asn Thr Val Ala Gly Ser Arg Val Pro Gly Arg Gly Ala Pro Ile 210 215 220

Ser Ala Leu Leu Ser Ile Leu Ser Phe Leu Ile Leu Tyr Phe Ser His 225 230 235 240

Cys Met Ile Lys Val Phe Leu Ser Ser Leu Lys Phe His Ile Arg Arg 245 250 255

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Phe Ile Phe Leu Phe Phe Ile Leu Val Ile Gly Ile Tyr Pro Ser Gly 265 His Ser Leu Ile Leu Gly Asn Pro Lys Leu Lys Gln Asn Ala 280 Lys Lys Phe Leu Leu His Ser Lys Cys Cys Gln <210> 51 <211> 900 <212> DNA <213> homo sapiens <220> <221> CDS <222> (1)..(900) <220> <221> variation <222> (332)..(332) <223> SNP <220> <221> variation <222> (616)..(616) <223> SNP <400> 51 atg cta gag tct cac ctc att atc tat ttt ctt ctt gca gtg ata caa Met Leu Glu Ser His Leu Ile Ile Tyr Phe Leu Leu Ala Val Ile Gln 48 ttt ctt ctt ggg att ttc aca aat ggc atc att gtg gtg gtg aat ggc Phe Leu Leu Gly Ile Phe Thr Asn Gly Ile Ile Val Val Asn Gly 96 20 25 att gac ttg atc aag cac aga aaa atg gct ccg ctg gat ctc ctt ctt Ile Asp Leu Ile Lys His Arg Lys Met Ala Pro Leu Asp Leu Leu 144 35 tct tgt ctg gca gtt tct aga att ttt ctg cag ttg ttc atc ttc tac Ser Cys Leu Ala Val Ser Arg Ile Phe Leu Gln Leu Phe Ile Phe Tyr 192 50 55 gtt aat gtg att gtt atc ttc ttc ata gaa ttc atc atg tgt tct gcg Val Asn Val Ile Val Ile Phe Phe Ile Glu Phe Ile Met Cys Ser Ala 240 aat tgt gca att ctc tta ttt ata aat gaa ttg gaa ctt tgg ctt gcc Asn Cys Ala Ile Leu Leu Phe Ile Asn Glu Leu Glu Leu Trp Leu Ala 288

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336

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105	
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agc aaa tat gca ggg ttt atg gtc cca tac ttc cta agg aaa ttt ttc Ser Lys Tyr Ala Gly Phe Met Val Pro Tyr Phe Leu Arg Lys Phe Phe 155 160	480
Ser Gln Asn Ala Thr Ile Gln Lys Glu Asp Thr Leu Ala Ile Gln Ile  165  175	528
ttc tct ttt gtt gct gag ttc tca gtg cca ttg ctt atc ttc ctt ttt Phe Ser Phe Val Ala Glu Phe Ser Val Pro Leu Leu Ile Phe Leu Phe 180 185	576
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agc gcg ttg ctg tct atc ctg tcc ttc ctg atc ctc tac ttc tcc cac Ser Ala Leu Leu Ser Ile Leu Ser Phe Leu Ile Leu Tyr Phe Ser His 235 240	720
tgc atg ata aaa gtt ttt ctc tct tct cta aag ttt cac atc aga agg Cys Met Ile Lys Val Phe Leu Ser Ser Leu Lys Phe His Ile Arg Arg 245 250	768
ttc atc ttt ctg ttc ttc atc ctt gtg att ggt ata tac cct tct gga Phe Ile Phe Leu Phe Phe Ile Leu Val Ile Gly Ile Tyr Pro Ser Gly 260 265 270	816
Cac tct ctc atc tta att tta gga aat cct aaa ttg aaa caa aat gca His Ser Leu Ile Leu Gly Asn Pro Lys Leu Lys Gln Asn Ala 275 280 285	864
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- Ile Asp Leu Ile Lys His Arg Lys Met Ala Pro Leu Asp Leu Leu 25 40 45
- Ser Cys Leu Ala Val Ser Arg Ile Phe Leu Gln Leu Phe Ile Phe Tyr 50 55 60
- Val Asn Val Ile Val Ile Phe Phe Ile Glu Phe Ile Met Cys Ser Ala 65 70 75 80
- Asn Cys Ala Ile Leu Leu Phe Ile Asn Glu Leu Glu Leu Trp Leu Ala 85 90 95
- Thr Trp Leu Gly Val Phe Tyr Cys Ala Lys Val Ala Ser Val His His
  100 105 110
- Pro Leu Phe Ile Trp Leu Lys Met Arg Ile Ser Lys Leu Val Pro Trp 115 120 125
- Met Ile Leu Gly Ser Leu Leu Tyr Val Ser Met Ile Cys Val Phe His 130 135 140
- Ser Lys Tyr Ala Gly Phe Met Val Pro Tyr Phe Leu Arg Lys Phe Phe 145 150 155 160
- Ser Gln Asn Ala Thr Ile Gln Lys Glu Asp Thr Leu Ala Ile Gln Ile 165 170 175
- Phe Ser Phe Val Ala Glu Phe Ser Val Pro Leu Leu Ile Phe Leu Phe 180 185 190
- Ala Val Leu Leu Ile Phe Ser Leu Gly Arg His Thr Arg Gln Met
  195 200 205
- Arg Asn Thr Val Ala Gly Ser Arg Val Pro Gly Arg Gly Ala Pro Ile 210 220
- Ser Ala Leu Leu Ser Ile Leu Ser Phe Leu Ile Leu Tyr Phe Ser His 225 230 235 240
- Cys Met Ile Lys Val Phe Leu Ser Ser Leu Lys Phe His Ile Arg Arg 245 250 255

Phe Ile Phe Leu Phe Phe Ile Leu Val Ile Gly Ile Tyr Pro Ser Gly 260 265 270

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Phe Thr Leu Gly Ile Leu Val Asn Cys Phe Ile Glu Leu Val Asn Gly
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agc agc tgg ttc aag acc aag aga atg tct ttg tct gac ttc atc atc

Ser Ser Trp Phe Lys Thr Lys Arg Met Ser Leu Ser Asp Phe Ile Ile

35 40 45

acc acc ctg gca ctc ttg agg atc att ctg ctg tgt att atc ttg act

Thr Thr Leu Ala Leu Leu Arg Ile Ile Leu Leu Cys Ile Ile Leu Thr

50 55 60

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Asp Ser Phe Leu Ile Glu Phe Ser Pro Asn Thr His Asp Ser Gly Ile
65 70 75 80

ata atg caa att att gat gtt tcc tgg aca ttt aca aac cat ctg agc

Ile Met Gln Ile Ile Asp Val Ser Trp Thr Phe Thr Asn His Leu Ser

85 90 95

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Ile Trp Leu Ala Thr Cys Leu Gly Val Leu Tyr Cys Leu Lys Ile Ala

100 105 110

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gag Glu	tat Tyr	tat Tyr	ctg Leu 180	atc Ile	cat His	gtt Val	ctt Leu	ggg Gly 185	act Thr	ctg Leu	tgg Trp	tac Tyr	ctg Leu 190	cct Pro	ccc Pro	576
tta Leu	att Ile	gtg Val 195	tcc Ser	ctg Leu	gcc Ala	tcc Ser	tac Tyr 200	tct Ser	ttg Leu	ctc Leu	atc Ile	ttc Phe 205	tcc Ser	ctg Leu	G1 y ggg	624
agg Arg	cac His 210	aca Thr	cgg Arg	cag Gln	atg Met	ctg Leu 215	caa Gln	aat Asn	GJÀ āāā	aca Thr	agc Ser 220	tcc Ser	aga Arg	gat Asp	cca Pro	۱ 672
acc Thr 225	act Thr	gag Glu	gcc Ala	cac His	aag Lys 230	agg Arg	gcc Ala	atc Ile	aga Arg	atc Ile 235	atc Ile	ctt Leu	tcc Ser	ttc Phe	ttc Phe 240	720
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aat Asn	ttc Phe	cta Leu	cca Pro 260	aaa Lys	acc Thr	aag Lys	atg Met	gct Ala 265	aag Lys	atg Met	att Ile	Gly ggc	gaa Glu 270	gta Val	atg Met	816
aca Thr	atg Met	ttt Phe 275	tat Tyr	cct Pro	gct Ala	ggc Gly	cac His 280	tca Ser	ttt Phe	att Ile	ctc Leu	att Ile 285	ctg Leu	GJÀ ààà	aac Asn	864
agt Ser	aag Lys 290	ctg Leu	aag Lys	cag Gln	aca Thr	ttt Phe 295	gta Val	gtg Val	atg Met	ctc Leu	cgg Arg 300	tgt Cys	gag Glu	tct Ser	ggt Gly	912
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# WO 2005/007891 PCT/US2004/019489

Ser	: Ser	Trp 35	Phe	. Lys	Thr	Lys	Arg 40	Met	: Ser	Leu	. Ser	: Asp 45	Phe	: I1e	: Ile
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Asp 65	Ser	Phe	Leu	Ile	Glu 70	Phe	Ser	Pro	Asn	Thr 75	His	Asp	Ser	Gly	Ile 80
Ile	Met	Gln	Ile	Ile 85	Asp	Val	Ser	Trp	Thr 90	Phe	Thr	Asn	His	Leu 95	Ser
Ile	Trp	Leu	Ala 100	Ţhr	Суз	Leu	Gly	Val 105	Leu	Tyr	Cys	Leu	Lys 110		Ala
Ser	Phe	Ser 115	His	Pro	Thr	Phe	Leu 120	Trp	Leu	Lys	Trp	Arg 125	Val	Ser	Arg
Val	Met 130	Val	Trp	Met	Leu	Leu 135	Gly	Ala	Leu	Leu	Leu 140	Ser	Cys	Gly	Ser
Thr 145	Ala	Ser	Leu	Ile	Asn 150	Glu	Phe	Lys	Leu	Туг 155	Ser	Val	Phe	Arg	Gly 160
Ile	Glu	Ala	Thr	Arg 165	Asn	Val	Thr	Glu	His 170	Phe	Arg	Lys	Lys	Arg 175	Ser
Glu	Tyr	Tyr	Leu 180	Ile	His	Val	Leu	Gly 185	Thr	Leu	Trp	Туг	Leu 190	Pro	Pro
Leu	Ile	Val 195	Ser	Leu	Ala	Ser	Туг 200	Ser	Leu	Leu	Ile	Phe 205	Ser	Leu	Gly
Arg	His 210	Thr	Arg	Gln	Met	Leu 215	Gln	Asn	Gly	Thr	Ser 220	Ser	Arg	Asp	Pro
Thr 225	Thr	Glu	Ala	His	Lys 230	Arg	Ala	Ile	Arg	Ile 235	Ile	Leu	Ser	Phe	Phe 240
Phe	Leu	Phe	Leu	Leu 245	Tyr	Phe	Leu	Ala	Phe 250	Leu	Ile	Ala	Ser	Phe 255	Gly
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Thr Met Phe Tyr Pro Ala Gly His Ser Phe Ile Leu Ile Leu Gly Asn

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His Leu Lys Pro Gly Ser Lys Gly Pro Ile Phe Ser

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acc acc ctg gca ctc ttg agg atc att ctg ctg tgt att atc ttg act Thr Thr Leu Ala Leu Leu Arg Ile Ile Leu Leu Cys Ile Ile Leu Thr 192

gat agt ttt tta ata gaa ttc tct ccc aac aca cat gat tca ggg ata Asp Ser Phe Leu Ile Glu Phe Ser Pro Asn Thr His Asp Ser Gly Ile 240

ata atg caa att att gat gtt tcc tgg aca ttt aca aac cat ctg agc Ile Met Gln Ile Ile Asp Val Ser Trp Thr Phe Thr Asn His Leu Ser 288

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			acc Thr	165		Val	1111	GLU	170	Phe	Arg	Lys	Lys	Arg 175	Ser	528
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		195				DET	200	ser	ьеи	Leu	Ile	Phe 205	Ser	Leu	Gly	624
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225			gcc Ala		230	AL G	ита	тте	Arg	235	Ile	Leu	Ser	Phe	Phe 240	720
			tta Leu	245	-3-	2110	116 ti	MIG	250	ьеи	ITe	Ala	Ser	Phe 255	Gly	768
			cca Pro 260	-,, -		75	Mer	265	гЛа	Met	ITe	Gly	Glu 270	Val	Met	816
		275	tat Tyr	0		O.L.y	280	ser	Pne	TTE	Leu	Ile 285	Leu	Gly	Asn	864
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Thr Thr Leu Ala Leu Leu Arg Ile Ile Leu Leu Cys Ile Ile Leu Thr 50 55 60

Asp Ser Phe Leu Ile Glu Phe Ser Pro Asn Thr His Asp Ser Gly Ile 70 75 80

Ile Met Gln Ile Ile Asp Val Ser Trp Thr Phe Thr Asn His Leu Ser 85 90 95

Ile Trp Leu Ala Thr Cys Leu Gly Val Leu Tyr Cys Leu Lys Ile Ala 100 105 110

Ser Phe Ser His Ser Thr Phe Leu Trp Leu Lys Trp Arg Val Ser Arg 115 120 125

Val Met Val Trp Met Leu Leu Gly Ala Leu Leu Leu Ser Cys Gly Ser 130 135 140

Thr Ala Ser Leu Ile Asn Glu Phe Lys Leu Tyr Ser Val Phe Arg Gly 145 150 155 160

Ile Glu Ala Thr Arg Asn Val Thr Glu His Phe Arg Lys Lys Arg Ser 165 170 175

Glu Tyr Tyr Leu Ile His Val Leu Gly Thr Leu Trp Tyr Leu Pro Pro 180 185 190

Leu Ile Val Ser Leu Ala Ser Tyr Ser Leu Leu Ile Phe Ser Leu Gly
195 200 205

Arg His Thr Arg Gln Met Leu Gln Asn Gly Thr Ser Ser Arg Asp Pro 210 215 220

Thr Thr Glu Ala His Lys Arg Ala Ile Arg Ile Ile Leu Ser Phe Phe 225 230 235 240

Phe Leu Phe Leu Tyr Phe Leu Ala Phe Leu Ile Ala Ser Phe Gly 245 250 255

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Thr Met Phe Tyr Pro Ala Gly His Ser Phe Ile Leu Ile Leu Gly Asn 275 280 285

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tt Ph	C ac e Se 50	gc ( er )	ctg Leu	ggc	at Il	c ac e Th	c ag r Ar 55	gg ti cg Pl	tt c ne I	ctt Leu	ato Met	g ct : Le	g gg u Gl	r A T	cta Seu	tt: Phe	t ct e Le	g (	gtg Val	192
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to: Se:	t go r Al	t t .a F	tt he	ttt Phe	gto Val 85	j tto L Le	g tg u Cy	t tt s Ph	c a ie M	tg et	ttt Phe 90	tto Lev	g ga 1 As	c t	cg er	ago Ser	ag Se:			288
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tto Phe	ca Gl	a c n H	ac i is 8	tca Ser	gtg Val	ttt Phe	cto	c ct u Le 12	g ci u Le 0	tg eu	aag Lys	cgg Arg	aa As	11 I.				a a	ag ys	384
ato Ile	Pro	c ago O Ai	gg d rg I	etg Jeu	ctg Leu	ctg Leu	gco Ala 135	c tgi a Cya	t gt s Va	ig al	ctg Leu	att Ile	tci Sei	t go	_	ttc Phe	acc Thr	a a	ct hr	432
tgc Cys 145	Let	g ta ı Ty	ac a yr I	le	acg Thr	ctt Leu 150	ago Ser	caq Glr	g go n Al	a .a :	tca Ser	cct Pro 155			t d	gaa Slu	ctt Leu	gt Va	al	480
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cat His 225	gta Val	G17	gc Al	t a a M	tg a	aag Lys 230	ctg Leu	atg Met	gtc Val	t t	y E			atc Ile	: ct	tc t eu T	ľyr	Ile	€	720
cca f	tat Tyr	tca Ser	gt Va	t g	ct a la 7	acc Thr	ctg Leu	gtc Val	cag Gln	ta Ty			ecc Pro	ttt Phe	ta Ty	it o		240 ggg Gly		768

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Phe Ser Leu Gly Ile Thr Arg Phe Leu Met Leu Gly Leu Phe Leu Val

Asn Thr Ile Tyr Phe Val Ser Ser Asn Thr Glu Arg Ser Val Tyr Leu 80

Ser Ala Phe Phe Val Leu Cys Phe Met Phe Leu Asp Ser Ser Ser Leu

Trp Phe Val Thr Leu Leu Asn Ile Leu Tyr Cys Val Lys Ile Thr Asn

Phe Gln His Ser Val Phe Leu Leu Leu Lys Arg Asn Ile Ser Pro Lys 120

Ile Pro Arg Leu Leu Leu Ala Cys Val Leu Ile Ser Ala Phe Thr Thr 135

Cys Leu Tyr Ile Thr Leu Ser Gln Ala Ser Pro Phe Pro Glu Leu Val 150 155

Thr Thr Arg Asn Asn Thr Ser Phe Asn Ile Ser Glu Gly Ile Leu Ser 165 170 175

Leu Val Val Ser Leu Val Leu Ser Ser Ser Leu Gln Phe Ile Ile Asn 180 185 190

Val Thr Ser Ala Ser Leu Leu Ile His Ser Leu Arg Arg His Ile Gln
195 200 205

Lys Met Gln Lys Asn Ala Thr Gly Phe Trp Asn Pro Gln Thr Glu Ala 210 215 220

His Val Gly Ala Met Lys Leu Met Val Tyr Phe Leu Ile Leu Tyr Ile 225 235 240

Pro Tyr Ser Val Ala Thr Leu Val Gln Tyr Leu Pro Phe Tyr Ala Gly

Met Asp Met Gly Thr Lys Ser Ile Cys Leu Ile Phe Ala Thr Leu Tyr 260 265 270

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#### WO 2005/007891 PCT/US2004/019489 108/447

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Phe Ser Leu Gly Ile Thr Arg Phe Leu Met Leu Gly Leu Phe Leu Val 50 55 60

Asn Thr Ile Tyr Phe Val Ser Ser Asn Met Glu Arg Ser Val Tyr Leu 70 75 80

Ser Ala Phe Phe Val Leu Cys Phe Met Phe Leu Asp Ser Ser Ser Leu 85 90 95

Trp Phe Val Thr Leu Leu Asn Ile Leu Tyr Cys Val Lys Ile Thr Asn 100 105 110

Phe Gln His Ser Val Phe Leu Leu Leu Lys Arg Asn Ile Ser Pro Lys 115 120 125

Ile Pro Arg Leu Leu Leu Ala Cys Val Leu Ile Ser Ala Phe Thr Thr 130 135 140

Cys Leu Tyr Ile Thr Leu Ser Gln Ala Ser Pro Phe Pro Glu Leu Val 145 150 155 160

Thr Thr Arg Asn Asn Thr Ser Phe Asn Ile Asn Glu Gly Ile Leu Ser 165 170 175

Leu Val Val Ser Leu Val Leu Ser Ser Ser Leu Gln Phe Ile Ile Asn 180 185 190

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Val Thr Ser Ala Ser Leu Leu Ile His Ser Leu Arg Arg His Ile Gln 200 205

Lys Met Gln Lys Asn Ala Thr Gly Phe Trp Asn Pro Gln Thr Glu Ala 215 220

His Val Gly Ala Met Lys Leu Met Val Tyr Phe Leu Ile Leu Tyr Ile 230 235

Pro Tyr Ser Val Ala Thr Leu Val Gln Tyr Leu Pro Phe Tyr Ala Gly 245 250

Met Asp Met Gly Thr Lys Ser Ile Cys Leu Ile Phe Ala Thr Leu Tyr 260 265

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V	gtg 7al	act Thr	tct Ser 195	gct Ala	tcc Ser	ttg Leu	cta Leu	ata Ile 200	cac His	tcc Ser	ttg Leu	agg Arg	aga Arg 205	cat His	ata Ile	cag Gln	624

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22	25					23	0			va.	r Iy	2:	ne 35	ьег	1 Il	e Le	eu '	Гуr	att Ile 240		720
					24	5				GII	25	0 T. T'é	eu	Pro	) Ph	е Ту	r 1	Ala 255	GJ À aaa		768
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ac: Th:		ca hr 90	gca Ala	aaç Lys	g aag E Ly:	g at	t ct e Le 29	u C	gt Ys	ttc Phe	aaa Lys	а аа 5 <b>L</b> y	a 's	tag							900
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Lys	Th	r 1	rp 5	Val	Lys	Ser	His	40	g 1	Ile	Ser	Ser	: s	er	Asp 45	Arg	· Il	.e ]	Leu		
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.Trp	Ph∈	₽ Va	al T 1	hr .00	Leu	Leu	Asn	Ile	10	eu 1 05	ſyr	Cys	Va	al I		Ile 110	Th:	r A	sn		

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Ile Pro Arg Leu Leu Ala Cys Val Leu Ile Ser Ala Phe Thr Thr 130 135 140

Cys Leu Tyr Ile Thr Leu Ser Gln Ala Ser Pro Phe Pro Glu Leu Val 155

Thr Thr Arg Asn Asn Thr Ser Phe Asn Ile Asn Glu Gly Ile Leu Ser 165 170

Leu Val Val Ser Leu Val Leu Ser Ser Ser Leu Gln Phe Ile Ile Asn 180 185

Val Thr Ser Ala Ser Leu Leu Ile His Ser Leu Arg Arg His Ile Gln 195 200

Lys Met Gln Lys Asn Ala Thr Gly Phe Trp Asn Pro Gln Thr Glu Ala 210 215

His Val Gly Ala Met Lys Leu Met Val Tyr Phe Leu Ile Leu Tyr Ile 225 230

Pro Tyr Ser Val Ala Thr Leu Val Gln Tyr Leu Pro Phe Tyr Ala Gly 245

Met Asp Met Gly Thr Lys Ser Ile Cys Leu Ile Phe Ala Thr Leu Tyr 260 265

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124/447
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Asn Thr Ile Tyr Phe Val Ser Ser Asn Thr Glu Arg Ser Val Tyr Leu 70 75 80

Ser Ala Phe Phe Val Leu Cys Phe Met Phe Leu Asp Ser Ser Ser Leu 85 90 95

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Met Asp Met Gly Thr Lys Ser Ile Cys Leu Ile Phe Ala Thr Leu Tyr 260 265

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aga gaa tgg atc aga aaa ttc aac tgg tcc tca tat aac ctc att atc 144 Arg Glu Trp Ile Arg Lys Phe Asn Trp Ser Ser Tyr Asn Leu Ile Ile

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Asp Leu Ser Leu Phe Pro Leu Phe Gln Ser Ser Arg Trp Leu Arg Tyr

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Cys Leu Leu Gly Tyr Phe Ile Ile Asn Leu Leu Leu Thr Val Gln Ile

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Pro Phe Glu Ser Trp Gln Tyr Leu Tyr Ala Phe Gln Leu Asn Ser Gly 170 175

Ser Tyr Leu Pro Leu Val Val Phe Leu Val Ser Ser Gly Met Leu Ile 185

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Gly Cys Phe Leu Leu His Leu Val Tyr Ile Met Ala Ser Pro Phe 230 235

Ser Ile Thr Ser Lys Thr Tyr Pro Pro Asp Leu Thr Ser Val Phe Ile 245 250

Trp Glu Thr Leu Met Ala Ala Tyr Pro Ser Leu His Ser Leu Ile Leu 260

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Gly Leu Thr Phe Tyr His Pro Pro Gln Gly Asn Ser Ser Ile Arg Tyr 155 160

Pro Phe Glu Ser Trp Gln Tyr Leu Tyr Ala Phe Gln Leu Asn Ser Gly 165

Ser Tyr Leu Pro Leu Val Val Phe Leu Val Ser Ser Gly Met Leu Ile 185

Val Ser Leu Tyr Thr His His Lys Lys Met Lys Val His Ser Ala Gly 200

Arg Arg Asp Val Gln Ala Lys Ala His Ile Thr Ala Leu Lys Ser Leu 215

Gly Cys Phe Leu Leu His Leu Val Tyr Ile Met Ala Ser Pro Phe

Ser Ile Thr Ser Lys Thr Tyr Pro Pro Asp Leu Thr Ser Val Phe Ile 245

Trp Glu Thr Leu Met Ala Ala Tyr Pro Ser Leu His Ser Leu Ile Leu

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Pro Ala Tyr Leu Trp Leu Lys Gln Arg Ala Tyr Asn Leu Ser Leu Trp 115 120

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Gly Leu Thr Phe Tyr His Pro Pro Gln Gly Asn Ser Ser Ile Arg Tyr 145 150 155 160

Pro Phe Glu Ser Trp Gln Cys Leu Tyr Ala Phe Gln Leu Asn Ser Gly 165

Ser Tyr Leu Pro Leu Val Val Phe Leu Val Ser Ser Gly Met Leu Ile 180 185

Val Ser Leu Tyr Thr His His Lys Lys Met Lys Val His Ser Ala Gly 195

Arg Arg Asp Val Arg Ala Lys Ala His Ile Thr Ala Leu Lys Ser Leu 210

Gly Cys Phe Leu Leu His Leu Val Tyr Ile Met Ala Ser Pro Phe 225 230

Ser Ile Thr Ser Lys Thr Tyr Pro Pro Asp Leu Thr Ser Val Phe Ile 245 250

Trp Glu Thr Leu Met Ala Ala Tyr Pro Ser Leu His Ser Leu Ile Leu 265

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acc Thr	ttc Phe	ctc Leu	agt Ser 100	gtc Val	ttc Phe	tat Tyr	tgc Cys	aag Lys 105	aag Lys	atc Ile	acg Thr	acc Thr	ttc Phe 110	gat Asp	cgc Arg	336
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Leu Gly Leu Ala Gly Cys Arg Phe Leu Leu Gln Trp Leu Ile Ile Leu 50 55 60

Asp Leu Ser Leu Phe Pro Leu Phe Gln Ser Ser Arg Trp Leu Arg Tyr 65 70 75 80

Leu Ser Ile Phe Trp Val Leu Val Ser Gln Ala Ser Leu Trp Phe Ala 85 90 95

Thr Phe Leu Ser Val Phe Tyr Cys Lys Lys Ile Thr Thr Phe Asp Arg 100 105 110

Leu Ala Tyr Leu Trp Leu Lys Gln Arg Ala Tyr Asn Leu Ser Leu Trp 115 120 125

Cys Leu Leu Gly Tyr Phe Ile Ile Asn Leu Leu Leu Thr Val Gln Ile 130 135 140

Gly Leu Thr Phe Tyr His Pro Pro Gln Gly Asn Ser Ser Ile Arg Tyr 145 150 155 160

Pro Phe Glu Ser Trp Gln Tyr Leu Tyr Ala Phe Gln Leu Asn Ser Gly 165 170 175

Ser Tyr Leu Pro Leu Val Val Phe Leu Val Ser Ser Gly Met Leu Ile 180 185 190

Val Ser Leu Tyr Thr His His Lys Lys Met Lys Val His Ser Ala Gly 195 200 205

Arg Arg Asp Val Arg Ala Lys Ala His Ile Thr Ala Leu Lys Ser Leu 210 220

Gly Cys Phe Leu Leu His Leu Val Tyr Ile Met Ala Ser Pro Phe Ser Ile Thr Ser Lys Thr Tyr Pro Pro Asp Leu Thr Ser Val Phe Ile

Trp Glu Thr Leu Met Ala Ala Tyr Pro Ser Leu His Ser Leu Ile Leu 265

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				20				,	25	у тт	e re	u va	aT A	aı	Trp	Se:	t ttt r Phe	:	96
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768

816

864

900

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Pro Phe Glu Ser Trp Gln Tyr Leu Tyr Ala Phe Gln Leu Asn Ser Gly 170

Ser Tyr Leu Pro Leu Val Val Phe Leu Val Ser Ser Gly Met Leu Ile 185

Val Ser Leu Tyr Thr His His Lys Lys Met Lys Val His Ser Ala Gly 200

Arg Arg Asp Val Arg Ala Lys Ala His Ile Thr Ala Leu Lys Ser Leu 215

Gly Cys Phe Leu Leu His Leu Val Tyr Ile Met Ala Ser Pro Phe 230

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acc tt Thr Ph		100	,		- 3-	Суѕ	105	гда	тте	Thr	Thr	Phe 110	Asp	Arg	336
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Leu Gly Leu Ala Gly Cys Arg Phe Leu Leu Gln Trp Leu Ile Ile Leu

Asp 65	Ļeu	Ser	Leu	Phe	Pro 70	Leu	Phe	Gln	Ser	Ser 75	Arg	Trp	Leu	Arg	Tyr 80
Leu	Ser	Ile	Phe	Trp 85	Val	Leu	Val	Ser	Gln 90	Ala	Ser	Leu	Trp	Phe 95	Ala
Thr	Phe	Leu	Ser 100	Val	Phe	Tyr	Суз	Lys 105	Lys	Ile	Thr	Thr	Phe 110	Asp	Arg
Pro	Ala	Туг 115	Leu	Trp	Leu	Lys	Gln 120	Arg	Ala	Tyr	Asn	Leu 125	Ser	Leu	Trp
Суз	Leu 130	Leu	Gly	Tyr	Phe	Ile 135	Ile	Asn	Leu	Leu	Leu 140	Thr	Val	Gln	Ile
Gly 145	Leu	Thr	Phe	Tyr	His 150	Pro	Pro	Gln	Gly	Asn 155	Ser	Ser	Ile	Arg	Tyr 160
Pro	Phe	Glu	Ser	Trp 165	Gln	Tyr	Leu	Tyr	Ala 170	Phe	Gln	Leu	Asn	Ser 175	Gly
Ser	Tyr	Leu	Pro 180	Leu	Val	Val	Phe	Leu 185	Val	Ser	Ser	Gly	Met 190	Leu	Ile
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Arg	Arg 210	Asp	Val	Arg	Ala	Lys 215	Ala	His	Ile	Thr	Ala 220	Leu	Lys	Ser	Leu
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Ser	Ile	Thr	Ser	Lys 245	Thr	Tyr	Pro	Pro	Asp 250		Thr	Ser	Val	Phe 255	Ile
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aga ga Arg Gl	a tgg at 1 Trp Il 35	c aga e Arg	aaa Lys	ttc Phe	aac Asn 40	tgg Trp	tcc Ser	tca Ser	tat Tyr	aac Asn 45	ctc Leu	att Ile	atc Ile	144
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gac tta Asp Lei 65	a agc tto 1 Ser Le	g ttt ı Phe	cca Pro 70	ctt Leu	ttc Phe	cag Gln	agc Ser	agc Ser 75	cgt Arg	tgg Trp	ctt Leu	tgc Cys	tat Tyr 80	240

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ace Th:	c tt r Ph	c ct e Le	c actual Science 10	gt g er V 00	tc t al I	tc he	tat Tyr	tge Cys	c aa s Ly 10	2 11	ag Ys	ato	ace Th	g ac r Th	c tt r Ph 11	ıe i	gat Asp	cgc Arg	336
cto Lei	g gc: 1 Al:	c ta a Ty 11	c ti r Le 5	g to eu T	gg d	etg Jeu	aag Lys	Ca Glr 12(		g g g A	cc la	tat Tyr	aac Asr	c cto Let 12!	ג Se	r i	ctc Leu	tgg Trp	384
tgo Cys	cti Lei 130	ct 1 Le )	g gg u Gl	jc ta y Ty	ac t	tt	ata Ile 135	ato	aat Asi	t ti n Le	tg eu	tta Leu	ctt Lev	ı Thi	a gt Va	c (	caa Gln	att Ile	432
ggc Gly 145	tta Let	ac Th	a tt r Ph	c ta e Ty		at is 50	cct Pro	ccc Pro	caa Glr	a go n Gl	гĀ	aac Asn 155	ago Ser	ago Ser	at Il	t o	gg Irg	tat Tyr 160	480
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			18	0					185	va	L-L-	ser	ser	Gly	Met 190	: L )	eu	Ile	576
gtc Val	tct Ser	tto Let 195	ta Ty:	t ac r Th	a ca r H:	is .	cac His	aag Lys 200	aag Lys	at Me	g a t ]	aag Lys	gtc Val	cat His 205	tca Ser	a g	ct la	ggt Gly	624
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ggc Gly 225	tgc Cys	ttc Phe	cto Lev	tt: Lei	a ct 1 Le 23	_	cac His	ctg Leu	gtt Val	tai Ty:	. 1	itc le 235	atg Met	gcc Ala	agc Ser	P ₁	co 1	ttc Phe 240	720
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Leu Gly Leu Ala Gly Cys Arg Phe Leu Leu Gln Trp Leu Ile Ile Leu 50 55 60

Asp Leu Ser Leu Phe Pro Leu Phe Gln Ser Ser Arg Trp Leu Cys Tyr 65 70 75 80

Leu Ser Ile Phe Trp Val Leu Val Ser Gln Ala Ser Leu Trp Phe Ala 85 90 95

Thr Phe Leu Ser Val Phe Tyr Cys Lys Lys Ile Thr Thr Phe Asp Arg 100 105 110

Leu Ala Tyr Leu Trp Leu Lys Gln Arg Ala Tyr Asn Leu Ser Leu Trp

Cys Leu Leu Gly Tyr Phe Ile Ile Asn Leu Leu Leu Thr Val Gln Ile 130 135 140

Gly Leu Thr Phe Tyr His Pro Pro Gln Gly Asn Ser Ser Ile Arg Tyr 145 150 155 160

Pro Phe Glu Ser Trp Gln Tyr Leu Tyr Ala Phe Gln Leu Asn Ser Gly 165 170 175

Ser Tyr Leu Pro Leu Val Val Phe Leu Val Ser Ser Gly Met Leu Ile 180 185 190

Val Ser Leu Tyr Thr His His Lys Lys Met Lys Val His Ser Ala Gly 195 200 205

Arg Arg Asp Val Arg Ala Lys Ala His Ile Thr Ala Leu Lys Ser Leu 210 215 220

Gly Cys Phe Leu Leu His Leu Val Tyr Ile Met Ala Ser Pro Phe

225 230 235 240

Ser Ile Thr Ser Lys Thr Tyr Pro Pro Asp Leu Thr Ser Val Phe Ile 250

Trp Glu Thr Leu Met Ala Ala Tyr Pro Ser Leu His Ser Leu Ile Leu 265

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ato Met	g ga t As	c to p T: 3:	gg rp	gtc Val	aaq Lys	g aa s Ly	g ag s Ar	g aa g Ly 40	O 11	t .e	gcc Ala	tcc Ser	att Ile	t ga e As _l 45	t tt o Le	a a u I	tc le	ctc Leu	144
aca Thr	a ag Se 50	t ci r Le	tg (	gcc Ala	ata Ile	tce Sei	c ag r Ar 55	a at g Il	t tg e Cy	rt 's :	cta Leu	ttg Leu	tgo Cys 60	gta Val	a at L Il	a c e L	ta eu	tta Leu	192
gat Asp 65	tg Cy	t tt s Ph	it a	ata Ile	ttg Leu	gto Val	g ct L Le	a ta u Ty	t cc r Pr	a o	gat Asp	gtc Val 75	tat Tyr	gco Ala	ac a Th	t go	gt Ly	aaa Lys 80	240
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atc Ile	tgg Trp	g tt Ph	t g e A	yca Ala .00	acc Thr	tgc Cys	cto Le	c ago 1 Sei	2 at 10	a 1	ac Tyr	tat Tyr	ttc Phe	ttc Phe	: aaq Lys	3 Il	a .e	ggt Gly	336
aat Asn	ttc Phe	tt Ph 11	t c e H 5	ac	cca Pro	ctt Leu	tto Phe	cto Lev 120	:	g a	atg Met	aag Lys	tgg Trp	aga Arg 125	I⊥€	ga As	c p	agg Arg	384
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agc Ser 145	ctt Leu	cc. Pr	a g	cc a la '	act Thr	gag Glu 150	aat Asn	ttg Leu	aac Asn	g n A	Ta A	gat Asp 155	ttc Phe	agg Arg	ttt Phe	tg Cy	s l	gtg /al !60	480
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act Thr	caa Gln	cat His	ge 8 Al	ct t la S 30	ct Ser	acc Thr	aag Lys	tta Leu	ttt Phe 185	T)	tc a eu <i>P</i>	aac Asn	ctg Leu	gca Ala	acg Thr 190			tc eu	576
ccc Pro	ttt Phe	tgt Cys 195	gt Va	g t	gc Sys	cta Leu	atg Met	tcc Ser 200	ttt Phe	t t Pi	tc c ne I	etc eu i	Leu	atc Ile 205		tco Ser	c L	tg eu	624
cgg Arg	aga Arg 210	cat His	at Il	c a .e A	rg i	cga Arg	atg Met 215	cag Gln	ctc Leu	aç Se	gt g er A	Ta:	aca Thr	G] À āāā	tgc Cys	aga Arg	g	ac sp	672
ccc Pro 225	agc Ser	aca Thr	ga Gl	ag uA		cat His 230	gtg Val	aga Arg	gcc Ala	ct Le	u L			gtc Val	att Ile	tcc Ser	Pl	tc ne 40	720
ctt ( Leu ]	ctc Leu	ctc Leu	tt Ph	t a e I	tt q le Æ	gcc ' Ala '	tac Tyr	tat Tyr	ttg Leu	tc Se	c t r P	tt c he I	tc a	att ( Ile )	gcc Ala	acc Thr			768

. .. _{.;} 151/447

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Thr Ser Leu Ala 50	Ile Ser Arg Ile 55	Cys Leu Leu Cys	s Val Ile Leu Leu	
Asp Cys Phe Ile : 65	Leu Val Leu Tyr 70	Pro Asp Val Tyr 75	r Ala Thr Gly Lys 80	
Glu Met Arg Ile	Ile Asp Phe Phe 85	Trp Thr Leu Thi	r Asn His Leu Ser 95	
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Val Ile Ser Trp :	Ile Leu Leu Gly 135	Cys Val Val Leu 140	ı Ser Val Phe Ile )	

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Ser Leu Pro Ala Thr Glu Asn Leu Asn Ala Asp Phe Arg Phe Cys Val 155

Lys Ala Lys Arg Lys Thr Asn Leu Thr Trp Ser Cys Arg Val Asn Lys 170

Thr Gln His Ala Ser Thr Lys Leu Phe Leu Asn Leu Ala Thr Leu Leu 185

Pro Phe Cys Val Cys Leu Met Ser Phe Phe Leu Leu Ile Leu Ser Leu 200

Arg Arg His Ile Arg Arg Met Gln Leu Ser Ala Thr Gly Cys Arg Asp 215

Pro Ser Thr Glu Ala His Val Arg Ala Leu Lys Ala Val Ile Ser Phe 230 235

Leu Leu Leu Phe Ile Ala Tyr Tyr Leu Ser Phe Leu Ile Ala Thr Ser 250

Ser Tyr Phe Met Pro Glu Thr Glu Leu Ala Val Ile Phe Gly Glu Ser 265

Ile Ala Leu Ile Tyr Pro Ser Ser His Ser Phe Ile Leu Ile Leu Gly 280

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atg gad Met As <u>r</u>	35		3 -	-10	••••9	40	116	Ата	ser	. ITe	Asp	Leu	Ile	Leu	144
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atc tgg Ile Trp		100		0,70	Leu	per	105	Tyr	Tyr	Phe	Phe	Lys 110	Ile	Gly	336
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Thr Ser Leu Ala Ile Ser Arg Ile Cys Leu Leu Cys Val Ile Leu Leu 50 55 60

Asp Cys Phe Ile Leu Val Leu Tyr Pro Asp Val Tyr Ala Thr Gly Lys 70 75 80'

Glu Met Arg Ile Ile Asp Phe Phe Trp Thr Leu Thr Asn His Leu Ser 85 90 95

Ile Trp Phe Ala Thr Cys Leu Ser Ile Tyr Tyr Phe Phe Lys Ile Gly 100 105 110

Asn Phe Phe His Pro Leu Phe Leu Trp Met Lys Trp Arg Ile Asp Arg 115 120 125

Val Ile Ser Trp Ile Leu Leu Gly Cys Val Val Leu Ser Val Phe Ile 130 135 140

Ser Leu Pro Ala Thr Glu Asn Leu Asn Ala Asp Phe Arg Phe Cys Val 145 150 155 160

Lys Ala Lys Arg Lys Thr Asn Leu Thr Trp Ser Cys Arg Val Asn Lys 165 170 175

Thr Gln His Ala Ser Thr Lys Leu Phe Leu Asn Leu Ala Thr Leu Leu 180 185 190

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Pro Ser Thr Glu Ala His Val Arg Ala Leu Lys Ala Val Ile Ser Phe 225 230 235 240

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Ser Tyr Phe Met Pro Glu Thr Glu Leu Ala Val Ile Phe Gly Glu Ser 260 265 270

Ile Ala Leu Ile Tyr Pro Ser Ser His Ser Phe Ile Leu Ile Leu Gly 275 280 285

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gat Asp 65	tgt Cys	ttt Phe	ata Ile	ttg Leu	gtg Val 70	cta Leu	tat Tyr	cca Pro	gat Asp	gtc Val 75	tat Tyr	gcc Ala	act Thr	ggt Gly	aaa Lys 80	240
gaa Glu	atg Met	aga Arg	atc Ile	att Ile 85	gac Asp	ttc Phe	ttc Phe	tgg Trp	aca Thr 90	cta Leu	acc Thr	aat Asn	cat His	tta Leu 95	agt Ser	288
atc Ile	tgg Trp	ttt Phe	gca Ala 100	acc Thr	tgc Cys	ctc Leu	agc Ser	att Ile 105	tac Tyr	tat Tyr	ttc Phe	ttc Phe	aag Lys 110	ata Ile	ggt Gly	336
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gtg Val	att Ile 130	tcc Ser	tgg Trp	att Ile	cta Leu	ctg Leu 135	GJÀ aaa	tgc Cys	gtg Val	gtt Val	ctc Leu 140	tct Ser	gtg Val	ttt Phe	att Ile	432
agc Ser 145	ctt Leu	cca Pro	gcc Ala	act Thr	gag Glu 150	aat Asn	ttg Leu	aac Asn	gct Ala	gat Asp 155	ttc Phe	agg Arg	ttt Phe	tgt Cys	gtg Val 160	480
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cgg Arg	aga Arg 210	cat His	atc Ile	agg Arg	cga Arg	atg Met 215	cag Gln	ctc Leu	agt Ser	gcc Ala	aca Thr 220	GJ À GG À	tgc Cys	aga Arg	gac Asp	672
ccc Pro 225	agc Ser	aca Thr	gaa Glu	gcc Ala	cat His 230	gtg Val	aga Arg	gcc Ala	ctg Leu	aaa Lys 235	gct Ala	gtc Val	att Ile	tcc Ser	ttc Phe 240	720
Leu	Leu	Leu	Phe	Ile 245	Ala	Tyr	Tyr	ttg Leu	Ser 250	Phe	Leu	Ile	Ala	Thr 255	Ser	7.68
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ata Ile	gct Ala	cta Leu 275	atc Ile	tac Tyr	ccc Pro	tca Ser	agt Ser 280	cat His	tca Ser	ttt Phe	atc Ile	cta Leu 285	ata Ile	ctg Leu	GJÀ āāā	864

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aac aat aaa tta aga cat gca tct cta aag gtg att tgg aaa gta atg Asn Asn Lys Leu Arg His Ala Ser Leu Lys Val Ile Trp Lys Val Met 912 tct att cta aaa gga aga aaa ttc caa caa cat aaa caa atc tga Ser Ile Leu Lys Gly Arg Lys Phe Gln Gln His Lys Gln Ile 957 <210> 92 <211> 318 <212> PRT <213> homo sapiens <400> 92 Met Ala Asp Lys Val Gln Thr Thr Leu Leu Phe Leu Ala Val Gly Glu Phe Ser Val Gly Ile Leu Gly Asn Ala Phe Ile Gly Leu Val Asn Cys Met Asp Trp Val Lys Lys Arg Lys Ile Ala Ser Ile Asp Leu Ile Leu Thr Ser Leu Ala Ile Ser Arg Ile Cys Leu Leu Cys Val Ile Leu Leu Asp Cys Phe Ile Leu Val Leu Tyr Pro Asp Val Tyr Ala Thr Gly Lys Glu Met Arg Ile Ile Asp Phe Phe Trp Thr Leu Thr Asn His Leu Ser 90 Ile Trp Phe Ala Thr Cys Leu Ser Ile Tyr Tyr Phe Phe Lys Ile Gly 105 110 Asn Phe Phe His Pro Leu Phe Leu Trp Met Lys Trp Arg Ile Asp Arg Val Ile Ser Trp Ile Leu Leu Gly Cys Val Val Leu Ser Val Phe Ile Ser Leu Pro Ala Thr Glu Asn Leu Asn Ala Asp Phe Arg Phe Cys Val Lys Ala Lys Arg Lys Thr Asn Leu Thr Trp Ser Cys Arg Val Asn Lys

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Thr Gln His Ala Ser Thr Lys Leu Phe Leu Asn Leu Ala Thr Leu Leu 180 . 185 190

Pro Phe Cys Val Cys Leu Met Ser Phe Phe Leu Leu Ile Leu Ser Leu 195 200 205

Arg Arg His Ile Arg Arg Met Gln Leu Ser Ala Thr Gly Cys Arg Asp 210 215 220

Pro Ser Thr Glu Ala His Val Arg Ala Leu Lys Ala Val Ile Ser Phe 230 235

Leu Leu Leu Phe Ile Ala Tyr Tyr Leu Ser Phe Leu Ile Ala Thr Ser 245 250

Ser Tyr Phe Met Pro Glu Met Glu Leu Ala Val Ile Phe Gly Glu Ser 260 265

Ile Ala Leu Ile Tyr Pro Ser Ser His Ser Phe Ile Leu Ile Leu Gly 275 280

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			20			. Cly	131.	25	r Flie	; TT6	: GT2	/ Leu	Val 30	. Asn	tgc Cys	96	
	-	35		-12	273	arg	40	tte	Ala	Ser	Ile	45	Leu	Ile	ctc Leu	144	
	50	,			561	55	TTE	Cys	ьеи	Leu	Суs 60	: Val	Ile	Leu	tta Leu	192	
65	_			200	70	пеа	тĀТ	PTO	Asp	75	Tyr	gcc Ala	Thr	Gly	Lys 80	240	
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gtg Val	att Ile 130	tcc Ser	tgg Trp	att Ile	cta Leu	ctg Leu 135	GJÀ aaa	tgc Cys	gtg Val	gtt Val	ctc Leu 140	tct Ser	gtg Val	ttt Phe	att Ile	432	
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aag ( Lys <i>l</i>	gca Ala :	aag Lys	agg Arg	aaa Lys 165	aca Thr	aac Asn	tta Leu	act Thr	tgg Trp 170	agt Ser	tgc Cys	aga Arg	gta Val	aat Asn 175	aaa Lys	528	
act o	caa (	cat	gct	tct	acc	aag	tta	ttt	ctc	aac	ctg	gca	acg	ctg	ctc	576	

	161/447	PC17US2004/019489
Thr Gln His Ala Ser Thr Lys Let 180	190	
ccc ttt tgt gtg tgc cta atg tcc Pro Phe Cys Val Cys Leu Met Ser 195 200	THE DEU LED (IA LAN CAN	ctg 624 Leu
cgg aga cat atc agg tga atgcagc Arg Arg His Ile Arg 210		672
cccagcacag aagcccatgt gagagccct	Q aaaqctqtca +++	
attgcctact atttgtcctt tctcattgc	G acctroaget establish	stettt 732
ttagctgtga tttttggtga gtccatagot	b decreeaget actitatgee agaga	icggaa 792
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ctaatactgg ggaacaataa attaagacat	gcatctctaa aggtgatttg gaaag	rtaata 912
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Thr Ser Leu Ala Ile Ser Arg Ile C 50 55	Cys Leu Leu Cys Val Ile Leu L 60	eu
Asp Cys Phe Ile Leu Val Leu Tyr P 65 70	ro Asp Val Tyr Ala Thr Gly L 75	
Glu Met Arg Ile Ile Asp Phe Phe T 85	rp Thr Leu Thr Asn His Leu Se 90 95	er
Ile Trp Phe Ala Thr Cys Leu Ser I	le Tyr Tyr Phe Phe Lys Ile G 110	-У
Asn Phe Phe His Pro Leu Phe Leu Ti 115 120	rp Met Lys Trp Arg Ile Asp Ar 125	.a

Val Ile Ser Trp Ile Leu Leu Gly Cys Val Val Leu Ser Val Phe Ile 135

Ser Leu Pro Ala Thr Glu Asn Leu Asn Ala Asp Phe Arg Phe Cys Val 150 155

Lys Ala Lys Arg Lys Thr Asn Leu Thr Trp Ser Cys Arg Val Asn Lys 165 170

Thr Gln His Ala Ser Thr Lys Leu Phe Leu Asn Leu Ala Thr Leu Leu 180 185

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	501	Val	20	TIE	пеп	стА	Asn	A1a 25	Phe	Ile	Gly	Leu	Val 30	Asn			96
1100	1101	35	var	пуѕ	пуs	Arg	ьуs 40	TTE	Ala	Ser	Ile	Asp 45	Leu	Ile	ctc Leu	1	44
	50	neu	nια	116	ser	55	TTE	Cys	Leu	Leu	Cys 60	Val	Ile	Leu		1	92
gat Asp 65	tgt Cys	ttt Phe	ata Ile	ttg Leu	gtg Val 70	cta Leu	tat Tyr	cca Pro	gat Asp	gtc Val 75	tat Tyr	gcc Ala	act Thr	ggt Gly	aaa Lys 80	2	40
gaa Glu	atg Met	aga Arg	atc Ile	act Thr 85	gac Asp	ttc Phe	ttc Phe	tgg Trp	aca Thr 90	cta Leu	acc Thr	aat Asn	cat His	tta Leu 95	agt Ser	2	88
atc Ile	tgg Trp	ttt Phe	gca Ala 100	acc Thr	tgc Cys	ctc Leu	agc Ser	att Ile 105	tac Tyr	tat Tyr	ttc Phe	ttc Phe	aag Lys 110	ata Ile	ggt Gly	3	36
aat Asn	ttc Phe	ttt Phe 115	cac His	cca Pro	ctt Leu	ttc Phe	ctc Leu 120	tgg Trp	atg Met	aag Lys	tgg Trp	aga Arg 125	att Ile	gac Asp	agg Arg	3	84
	130	561	ııp	**F	ьеи	135	стх	Cys	val	Val	Leu 140	tct Ser	Val	Phe	Ile	4	32
agc Ser 145	ctt Leu	cca Pro	gcc Ala	act Thr	gag Glu 150	aat Asn	ttg Leu	aac Asn	gct Ala	gat Asp 155	ttc Phe	agg Arg	ttt Phe	tgt Cys	gtg Val 160	4	80
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cgg Arg	aga Arg 210	cat His	atc Ile	agg Arg	cga Arg	atg Met 215	cag Gln	ctc Leu	agt Ser	gcc Ala	aca Thr 220	GJ Å aaa	tgc Cys	aga Arg	gac Asp	67	72
ccc	agc	aca	gaa	gcc	cat	gtg	aga	gcc	ctg	aaa	gct	gtc	att	tcc	ttc	72	20

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		- 1		260	110	Giu	ser	GIU	265	Ala	Val	Ile	Phe	Gly 270	Glu		816
	ata Ile	gct Ala	cta Leu 275	atc Ile	tac Tyr	ccc Pro	tca Ser	agt Ser 280	cat His	tca Ser	ttt Phe	atc Ile	cta Leu 285	ata Ile	ctg Leu	gj aaa	864
	aac Asn	aat Asn 290	-2,0	tta Leu	aga Arg	cat His	gca Ala 295	tct Ser	cta Leu	aag Lys	gtg Val	att Ile 300	tgg Trp	aaa Lys	gta Val	atg Met	912
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J	Met	Asp	Trp 35	Val	Lys	Lys	Arg	Lys 40	Ile	Ala	Ser	Ile	Asp 45	Leu	Ile	Leu	
	Thr	Ser 50	Leu	Ala	Ile	Ser	Arg 55	Ile	Cys	Leu	Leu	Cys 60	Val	Ile	Leu	Leu	
1	Asp 65	Суз	Phe	Ile	Leu	Val 70	Leu	Tyr	Pro	Asp	Val 75	Tyr	Ala	Thr	Gly	Lys 80	
(	Glu	Met	Arg	Ile	Thr 85	Asp	Phe	Phe	Trp	Thr 90	Leu	Thr	Asn	His	Leu 95	Ser	
3	[le	Trp	Phe	Ala 100	Thr	Суз	Leu	Ser	Ile 105	Tyr	Tyr	Phe	Phe	Lys 110	Ile	Gly .	
I	Asn	Phe	Phe 115	His	Pro	Leu	Phe	Leu 120	Trp	Met	Lys	Trp	Arg 125	Ile	Asp	Arg	

- Harry Hange of of think winds think or

Val Ile Ser Trp Ile Leu Leu Gly Cys Val Val Leu Ser Val Phe Ile 130 135 140

Ser Leu Pro Ala Thr Glu Asn Leu Asn Ala Asp Phe Arg Phe Cys Val 145 150 155 160

Lys Ala Lys Arg Lys Thr Asn Leu Thr Trp Ser Cys Arg Val Asn Lys 165 170 175

Thr Gln His Ser Ser Thr Lys Leu Phe Leu Asn Leu Ala Thr Leu Leu 180 185 190

Pro Phe Cys Val Cys Leu Met Ser Phe Phe Leu Leu Ile Leu Ser Leu 195 200 205

Arg Arg His Ile Arg Arg Met Gln Leu Ser Ala Thr Gly Cys Arg Asp 210 215 220

Pro Ser Thr Glu Ala His Val Arg Ala Leu Lys Ala Val Ile Ser Phe 225 230 235 240

Leu Leu Leu Phe Ile Ala Tyr Tyr Leu Ser Phe Leu Ile Ala Thr Ser 245 250 255

Ser Tyr Phe Met Pro Glu Ser Glu Leu Ala Val Ile Phe Gly Glu Ser 260 265 270

Ile Ala Leu Ile Tyr Pro Ser Ser His Ser Phe Ile Leu Ile Leu Gly
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Asn Asn Lys Leu Arg His Ala Ser Leu Lys Val Ile Trp Lys Val Met 290 295 300

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			20					25	J		C AL	a re	u va. 30	L Asr	tgg Trp	96
		35				_	40		- 50.	- 2111	- va.	45 45	туг	: Ile	ctt Leu	144
	50					55		-		* ***	60	val	Met	Val		192
03			gta Val		70				1101	75	τλτ	Tnr	ьys	Asn	Lys	240
			gtc Val	85				•	90		ura.	ASII	Tyr	Leu 95	Asn	288
			acc Thr 100					105	~	+ <b>Y</b> L	FIIE	теп	ьуs 110	Ile	Ala	336
		112	cat His				120	•		цys	ттЪ	125	TTE	Asp	Met	384
gtg Val	gtg Val 130	cac His	tgg Trp	atc Ile	ctg Leu	ctg Leu 135	gga Gly	tgc Cys	ttt Phe		att Ile 140	tcc Ser	ttg Leu	ttg Leu	gtc Val	432

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Thr Asn Leu Val Ile Ala Arg Ile Cys Leu Ile Ser Val Met Val Val 50 55 60

Asn Gly Ile Val Ile Val Leu Asn Pro Asp Val Tyr Thr Lys Asn Lys 65 70 . 75 80

Gln Gln Ile Val Ile Phe Thr Phe Trp Thr Phe Ala Asn Tyr Leu Asn 85 90 95

Met Trp Ile Thr Thr Cys Leu Asn Val Phe Tyr Phe Leu Lys Ile Ala
100 105 110

Ser Ser Ser His Pro Leu Phe Leu Trp Leu Lys Trp Lys Ile Asp Met 115 120 125

Val Val His Trp Ile Leu Leu Gly Cys Phe Ala Ile Ser Leu Leu Val 130 135 140

Ser Leu Ile Ala Ala Ile Val Leu Ser Cys Asp Tyr Arg Phe His Ala 145 150 155 160

Ile Ala Lys His Lys Arg Asn Ile Thr Glu Met Phe His Val Ser Lys 165 170 175

Ile Pro Tyr Phe Glu Pro Leu Thr Leu Phe Asn Leu Phe Ala Ile Val 180 185 190

Pro Phe Ile Val Ser Leu Ile Ser Phe Phe Leu Leu Val Arg Ser Leu 195 200 205

Trp Arg His Thr Lys Gln Ile Lys Leu Tyr Ala Thr Gly Ser Arg Asp 210 215 220

Pro Ser Thr Glu Val His Val Arg Ala Ile Lys Thr Met Thr Ser Phe 225 230 230 235

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Ser Tyr Leu Met Thr Lys Tyr Lys Leu Ala Val Glu Phe Gly Glu Ile
260 265 270

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agt toc tot cat coal cut the series of the s						85				_	90		ALG	ASII	Tyr	Leu	Asn	288
gtg gtg cac tgg atc ctg ctg gga tgc ttt gcc att tcc ttg ttg gtc 432    gtg tgc cac tgg atc ctg ctg gga tgc ttt gcc att tcc ttg ttg gtc 130    agc ctt ata gca gca ata gta ctg agt tgt ggt tat agg ttt cat gca 25c    ser Leu Ile Ala Ala Ile Val Leu Ser Cys Asp Tyr Arg Phe His Ala 160    att gcc aaa cat aaa aga aac att act gga att gtt cat gtg agt tgc ttc cat gtg agt aaa 155    att gcc aaa cat aaa aga aac att act gaa att tcc cat gtg agt aaa 160    att gcc aaa cat ttg gaa ccc ttg act ctc ttt aac ctg ttt gca att gtc 170    ata cca tat ttg gaa ccc ttg act ctc ttt aac ctg ttt gca att gtc 180    cca tta ttg gga cct gaa tca ttt tcc ttt aga aga tct tta 180    cca tta att gtg tca ctg ata tca ttt tc ctt tta gta aga tct tta 190    cca tta att gtg tca ctg ata tca ttt ttc ctt tta gta aga tct tta 190    cca tta att gtg tca ctg ata aaa ctc tat gct acc ggc agt aga gac att 200    cca tta att gtg tca ctg ata aaa ctc tat gct acc ggc agt aga gac att 210    cca aga gac cat acc aag caa ata aaa ctc tat gct acc ggc agt aga gac att 210    cca aga gat cat acc aag caa ata aaa ctc tat gct acc ggc agt aga gac att 210    ccc aga gaa gtt cat gtg aga gcc att aaa act att gct acc ggc agt aga gac att 210    ccc aga aca gaa gtt cat gtg aga gcc att aaa act att gcc acc ggc agt aga gac att 210    ccc aga aca gat cat acc ag gaa gcc att aaa act att gcc acc gcc aga acc att acc acc gcc aga acc acc acc acc acc acc					100	,				105		- 3 -	1116	пеп	Lys	ITe	Ala	336
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att gcc aaa cat aaa aga aac att act gca at gtg aga at gcc att att gtg tca ctg ata at aa acc acc aga cat acc acc aga cac at acc acc acc acc acc acc acc acc			-00				;	135		_	-		140	ser .	Leu	Leu	Val	432
ata cca tac ttt gas ccc ttg act ctc ttt acc ctg ttt gas ccc ttg act ctc ttt acc ctg ttt gas act ctc ttt acc ctg ttt gas ccc ttg act ctc ttt acc ctg ttt gas act ctc tta gcc acc gcc acc acc acc acc acc acc ac							150				- 4 -	155	ı Ar	Arg i	Phe .	His .	Ala	480
CCa ttt att gtg tca ctg ata tca ttt ttc ctt tta gta aga tct tta file Val 195  tgg aga cat acc aag caa ata aaa ctc tat gct acc ggc agt aga gac for 210  cca ggc aga cat acc aag caa ata aaa ctc tat gct acc ggc agt aga gac for 215  ccc agc aca gaa gtt cat gtg aga gcc att aaa act att ttc tct at gct acc ggc agt aga gac for 220  ccc agc aca gaa gtt cat gtg aga gcc att aaa act att for for Ser Thr Glu Val Arg Ala Ile Lys Thr Met Thr Ser Phe 235  atc ttc ttt ttt ttc cta tac tat att tct tc						165				1	170		ine i	nis /	al S	Ser ]	Lys	528
cca ttt att gtg tca ctg ata tca ttt ttc ctt tta gta aga tct tta 195					180				1	85			eu E	ne A	оо та 1	le v	/al	576
ccc agc aca gaa gtt cat gtg aga gcc att aaa act atg act tca ttt 720 225			•	195				20	00	-		Cu 1	eu v	OS A	rg S	er L	eu	624
atc ttc ttt ttt ttc cta tac tat att tct tc		~					21	.5		'		22	20	т	er A	rg A	sp	672
atc ttc ttt ttt ttc cta tac tat att tct tc		-20				2:	30		-		23	35	IT. ME	et Th	ır Se	er Pl	he	720
agc tat ctt atg aca aaa tac aag tta gct gtg gag ttt gga gag att 260					2	45				25	0		е пе	eu Me	t Th	c tt	et ne	768
gca gca att ctc tac ccc ttg ggt cac tca ctt att tta att gtt tta Ala Ala Ile Leu Tyr Pro Leu Gly His Ser Leu Ile Leu Ile Val Leu 275 280 285  aat aat aaa ctg agg cag aca ttt gtc aga atg ctg aca tgt aga aaa Asn Asn Lys Leu Arg Gln Thr Phe Val Arg Met Leu Thr Cys Arg Lys				4	60				26	5	_ , .	<b>-</b> G1	u Pn	e G1	a ga y Gl	g at u Il	.e	816
Asn Asn Lys Leu Arg Gln Thr Phe Val Arg Met Leu Thr Cys Arg Lys			21	5				280	ı		- 10	7 II.	28.	a ati u Ile	t gt	l Le	u	864
	a. A:	at aa sn As: 29	t aa n Ly O	a ct 's Le	g ag eu Ar	gg Ca gg Gli	g aca n Thr 295	ttt Phe	gto Val	aga Arg	a ato Met		g aca	_	aga Arq	a aaa g Lys	a S	912

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Ser Ser Ser His Pro Leu Phe Leu Trp Leu Lys Trp Lys Ile Asp Met 115 120 125

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Ser Leu Ile Ala Ala Ile Val Leu Ser Cys Asp Tyr Arg Phe His Ala 145 150 155 160

Ile Ala Lys His Lys Arg Asn Ile Thr Glu Met Phe His Val Ser Lys 165 170 175

Ile Pro Tyr Phe Glu Pro Leu Thr Leu Phe Asn Leu Phe Ala Ile Val 180 185 190

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Trp Arg His Thr Lys Gln Ile Lys Leu Tyr Ala Thr Gly Ser Arg Asp 210

Pro Ser Thr Glu Val His Val Arg Ala Ile Lys Thr Met Thr Ser Phe

Ile Phe Phe Phe Leu Tyr Tyr Ile Ser Ser Ile Leu Met Thr Phe

Ser Tyr Leu Met Thr Lys Tyr Lys Leu Ala Val Glu Phe Gly Glu Ile

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at Il	t gad a Asp	tge Trp 35	g ati p Ile	t aac e Lys	aag Lys	aaa Lys	aac Lys 40	g att s Ile	tco Ser	aca Thr	gtt Val	gac L Asp 45	tac Tyı	ato	ctt Leu	144
acc Thi	c aat c Asr 50	tta Lei	a gtt 1 Val	t ato	gcc Ala	aga Arg 55	att	tgt Cys	ttg Leu	r ato	agt Ser 60	gta Val	ato Met	gtt Val	gta Val	192
aat Ası 65	gly ggc	att Ile	gta Val	a ata L Ile	gta Val 70	ctg Leu	aac Asn	cca Pro	gat Asp	gtt Val 75	tat Tyr	aca Thr	aaa Lys	aat Asn	aaa Lys 80	240
caa Glr	a cag a Gln	ata Ile	gto Val	att Ile 85	ttt Phe	acc Thr	ttc Phe	tgg Trp	aca Thr 90	ttt Phe	gcc Ala	aac Asn	tac Tyr	tta Leu 95	aat Asn	288
			100		-12	<b>200</b>	ASII	105	Pne	туr	Phe	Leu	Lys 110	Ile	Ala	336
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gtg Val	gtg Val 130	cac His	tgg Trp	atc Ile	ctg Leu	ctg Leu 135	gga Gly	tgc Cys	ttt Phe	gcc Ala	att Ile 140	tcc Ser	ttg Leu	ttg Leu	gtc Val	432
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720

768

816

864

912

930

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225	5				230	)		, nr	7 116	з цу: 23:	s Thi	r Me	t Th:	r Ser	ttt Phe 240	
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aat Asn	aat Asn 290	aaa Lys	ctg Leu	agg Arg	cag Gln	aca Thr 295	r 116	gtc Val	aga Arg	atç Met	cto Leu 300	l Thr	tgt Cys	aga Arg	aaa Lys	
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Phe	Ile	Leu	Gly 20	Ile	Leu	Gly	Asn	Gly 25	Tyr	Ile	Ala	Leu	Val 30	Asn	Trp	
Ile	Asp	Trp 35	Ile	Lys	Lys	Lys	Lys 40	Ile	Ser	Thr	Val	Asp 45	Tyr	Ile	Leu	
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Gln (	Gln :	Ile	Val	Ile 85	Phe	Thr	Phe '	Trp	Thr 90	Phe	Ala	Asn	Tyr	Leu . 95	Asn	

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Ser Ser Ser His Pro Leu Phe Leu Trp Leu Lys Trp Lys Ile Asp Met
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Val Val His Trp Ile Leu Leu Gly Cys Phe Ala Ile Ser Leu Leu Val

Ile Ala Lys His Lys Arg Asn Ile Thr Glu Met Phe His Val Ser Lys 165 170 175

Ile Pro Tyr Phe Glu Pro Leu Thr Leu Phe Asn Leu Phe Ala Ile Val 180 185 190

Pro Phe Ile Val Ser Leu Ile Ser Phe Phe Leu Leu Val Arg Ser Leu 195 200 205

Trp Arg His Thr Lys Gln Ile Lys Leu Tyr Ala Thr Gly Ser Arg Asp 210 215 220

Pro Ser Thr Glu Val His Val Arg Ala Ile Lys Thr Met Thr Ser Phe 230 235 240

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Ser Tyr Leu Met Thr Lys Tyr Lys Leu Ala Val Glu Phe Gly Glu Ile 260 270

Ala Ala Ile Leu His Pro Leu Gly His Ser Leu Ile Leu Ile Val Leu 275 280 285

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tto Phe	ata Ile	cta Leu	gga Gly 20	ata Ile	ttg Leu	Gly	aat Asn	gga Gly 25	tac Tyr	att Ile	gca Ala	cta Leu	gtc Val 30	aac Asn	tgg Trp		96
att Ile	gac Asp	tgg Trp 35	att Ile	aag Lys	aag Lys	aaa Lys	aag Lys 40	att Ile	tcc Ser	aca Thr	gtt Val	gac Asp 45	tac Tyr	atc Ile	ctt Leu	1	44
Thr	aat Asn 50	tta Leu	gtt Val	716	gcc Ala	Arg	att Ile	tgt Cys	ttg Leu	atc Ile	agt Ser 60	gta Val	atg Met	gtt Val	gta Val	1	92
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caa Gln	cag Gln	ata Ile	gtc Val	att Ile 85	ttt Phe	acc Thr	ttc Phe	tgg Trp	aca Thr 90	ttt Phe	gcc Ala	aac Asn	tac Tyr	tta Leu 95	aat Asn	2	88
	rrp	att Ile	100	THE	Cys	ьeu	Asn	105	Phe	Tyr	Phe	Leu	Lys 110	Ile	Ala	3:	36
		tct Ser 115	11.1.0	110	пец	rne	120	Trp	теп	гуз	Trp	Lys 125	Ile	Asp	Met	31	84
gtg Val	gtg Val	cac His	tgg Trp	atc Ile	ctg Leu	ctg Leu	gga Gly	tgc Cys	ttt Phe	gcc Ala	att Ile	tcc Ser	ttg Leu	ttg Leu	gtc Val	43	32

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Thr	Asn 50	Leu	.Val	Ile	Ala	Arg 55	Ile	Cys	Leu	Ile	Ser 60	Val	Met	Val	Val
Asn 65	Gly	Ile	Val	Ile	Val 70	Leu	Asn	Pro	Asp	Val 75	Tyr	Thr	Lys	Asn	Lys
Gln	Gln	Ile	Val	Ile 85	Phe	Thr	Phe	Trp	Thr 90	Phe	Ala	Asn	Tyr	Leu 95	Asn
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Pro	Phe	Ile 195	Val	Ser	Leu	Ile	Ser 200	Phe	Phe	Leu	Leu	Val 205	Arg	Ser	Leu
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Pro 225	Ser	Thr	Glu	Val	His 230	Val	Arg	Ala	Ile	Lys 235	Thr	Met	Thr	Ser	Phe 240
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ttc ata cta gga ata Phe Ile Leu Gly Ile 20	ttg ggg aa Leu Gly As	t gga tac att on Gly Tyr Ile 1 25	gca cta gtc aac Ala Leu Val Asn 30	tgg 96 Trp
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		115	<b>i</b>				120	)	, <u>1</u> 6(	и груг	a GTZ	125	i Ile	e Asp	atg Met	384
	130					135		0,70	- 116	2 WTC	140	e Ser	Leu	Leu	gtc Val	432
145					150	)		DGI	Cys	155	туг	Arg	Phe	His	gca Ala 160	480
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		195					200	rne	rne	ьeu	Leu	gta Val 205	Arg	Ser	Leu	624
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225					230		9	1114	TTG	235	rnr	atg Met	Thr	Ser	Phe 240	720
atc :				245		-3-	-1-	***C	250	ser	TTE	Leu	Met	Thr 255	Phe	768
agc f			260		•		-,, -	265	VIG	val	GIU	Phe	Gly 270	Glu	Ile	816
gca ç Ala <i>I</i>	gca Ala	att Ile 275	ctc Leu	tac Tyr	ccc Pro		ggt Gly 280	cac His	tca Ser	ctt Leu	тте	tta Leu 285	att Ile	gtt Val	tta Leu	864
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Thr Asn Leu Val Ile Ala Arg Ile Cys Leu Ile Ser Val Met Val Val

Asn Gly Ile Val Ile Val Leu Asn Pro Asp Val Tyr Thr Lys Asn Lys 75

Gln Gln Ile Val Ile Phe Thr Phe Trp Thr Phe Ala Asn Tyr Leu Asn

Met Trp Ile Thr Thr Cys Leu Asn Val Phe Tyr Phe Leu Lys Ile Ala

Ser Ser Ser His Pro Leu Phe Leu Trp Leu Lys Gly Lys Ile Asp Met 120

Val Val His Trp Ile Leu Leu Gly Cys Phe Ala Ile Ser Leu Leu Val

Ser Leu Ile Ala Ala Ile Val Leu Ser Cys Asp Tyr Arg Phe His Ala 155 160

Ile Ala Lys His Lys Arg Asn Ile Thr Glu Met Phe His Val Ser Lys 170

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Trp Arg His Thr Lys Gln Ile Lys Leu Tyr Ala Thr Gly Ser Arg Asp 210 215 220

Pro Ser Thr Glu Val His Val Arg Ala Ile Lys Thr Met Thr Ser Phe 235 230 240

Ile Phe Phe Phe Leu Tyr Tyr Ile Ser Ser Ile Leu Met Thr Phe 245 250 255

Ser Tyr Leu Met Thr Lys Tyr Lys Leu Ala Val Glu Phe Gly Glu Ile 260 270

Ala Ala Ile Leu Tyr Pro Leu Gly His Ser Leu Ile Leu Ile Val Leu 275 280 285

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aat Asn	aat Asn 290	aaa Lys	ctg Leu	agg Arg	cag Gln	aca Thr 295	ttt Phe	gtc Val	aga Arg	atg Met	ctg Leu 300	aca Thr	tgt Cys	aga Arg	aaa Lys	912
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Ser Leu Ile Ala Ala Ile Val Leu Ser Cys Asp Tyr Arg Phe His Ala 145 150 155 160

Ile Ala Lys His Lys Arg Asn Ile Thr Glu Met Phe His Val Ser Lys 165 170 175

Ile Pro Tyr Phe Glu Pro Leu Thr Leu Phe Asn Leu Phe Ala Ile Val 180 185 190

Pro Phe Ile Val Ser Leu Ile Ser Phe Phe Leu Leu Val Arg Ser Leu 195 200 205

Trp Arg His Thr Lys Gln Ile Lys Leu Tyr Ala Thr Gly Ser Arg Asp 210 215 220

Pro Ser Thr Glu Val His Val Arg Ala Ile Lys Thr Met Thr Ser Phe 225 230 235 240

Ile Phe Phe Phe Leu Tyr Tyr Ile Ser Ser Ile Leu Met Thr Phe 245 250 255

Ser Tyr Leu Met Thr Lys Tyr Lys Leu Ala Val Glu Phe Gly Glu Ile 260 270

Ala Ala Ile Leu Tyr Pro Leu Gly His Ser Leu Ile Leu Ile Val Leu 275 280 285

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cat gaa gaa aac att act tgg aaa ttc aaa gtg agt aaa att cca His Glu Glu Asn Ile Thr Trp Lys Phe Lys Val Ser Lys Ile Pro 165 170	Gly
act ttc aaa cag tta acc ctg aac ctg ggg gtg atg gtt ccc ttt Thr Phe Lys Gln Leu Thr Leu Asn Leu Gly Val Met Val Pro Phe 180 185	Ile
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gag gcc cac atg agg gcc ata aag gca gtg atc atc ttt ctg ctc c Glu Ala His Met Arg Ala Ile Lys Ala Val Ile Ile Phe Leu Leu I 225 230 235	Leu
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Ile Ser Leu Ala Ile Ser Arg Ile Cys Leu Leu Cys Val Ile Ser Leu 50 55 60

Asp Gly Phe Phe Met Leu Leu Phe Pro Gly Thr Tyr Gly Asn Ser Val 65 70 75 80

Leu Val Ser Ile Val Asn Val Val Trp Thr Phe Ala Asn Asn Ser Ser 85 90 95

Leu Trp Phe Thr Ser Cys Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala 100 105 110

Asn Ile Ser His Pro Phe Phe Phe Trp Leu Lys Leu Lys Ile Asn Lys 115 120 125

Val Met Leu Ala Ile Leu Leu Gly Ser Phe Leu Ile Ser Leu Ile Ile 130 135 140

Ser Val Pro Lys Asn Asp Asp Met Trp Tyr His Leu Phe Lys Val Ser 145 150 155 160

His Glu Glu Asn Ile Thr Trp Lys Phe Lys Val Ser Lys Ile Pro Gly 165 170 175

Thr Phe Lys Gln Leu Thr Leu Asn Leu Gly Val Met Val Pro Phe Ile 180 185 190

Leu Cys Leu Ile Ser Phe Phe Leu Leu Leu Phe Ser Leu Val Arg His 195 200 205

Thr Lys Gln Ile Arg Leu His Ala Thr Gly Phe Arg Asp Pro Ser Thr 210 215 220

Glu Ala His Met Arg Ala Ile Lys Ala Val Ile Ile Phe Leu Leu 225 230 235 240

Leu Ile Val Tyr Tyr Pro Val Phe Leu Val Met Thr Ser Ser Ala Leu 245 250 255

Ile Pro Gln Gly Lys Leu Val Leu Met Ile Gly Asp Ile Val Thr Val 260 265 270

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115	tt ttc ttc tgg ctg aag cta aag atc aac a Phe Phe Phe Trp Leu Lys Leu Lys Ile Asn L 120	ys
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180	cc ctg aac ctg ggg gtg atg gtt ccc ttt at hr Leu Asn Leu Gly Val Met Val Pro Phe II 185	.e
ctt tgc ctg atc tca tt Leu Cys Leu Ile Ser Ph 195	ct ttc ttg tta ctt ttc tcc cta gtt aga ca ne Phe Leu Leu Leu Phe Ser Leu Val Arg Hi 200 205	.c 624 s
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gag gcc cac atg agg gc Glu Ala His Met Arg Al 225 23	c ata aag gca gtg atc atc ttt ctg ctc ct a Ile Lys Ala Val Ile Ile Pho Lov I	u
ctc atc gtg tac tac cc Leu Ile Val Tyr Tyr Pro	a gtc ttt ctt gtt atg acc tct agc gct cto o Val Phe Leu Val Met Thr Ser Ser Ala Leu	

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ttg Leu	agg Arg 290	gaa Glu	gct Ala	ttt Phe	atg Met	aag Lys 295	atg Met	tta Leu	aga Arg	ttt Phe	gtg Val 300	aag Lys	tgt Cys	ttc Phe	ctt Leu	912
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Ile	Asp	Trp 35	Leu	Lys	Arg	Arg	Asp 40	Ile	Ser	Leu	Ile	Asp 45	Ile	Ile	Leu	
Ile	Ser 50	Leu	Ala	Ile	Ser	Arg 55	Ile	Cys	Leu	Leu	Cys 60	Val	Ile	Ser	Leu	
Asp 65	Gly	Phe	Phe	Met	Leu 70	Leu	Phe	Pro	Gly	Thr 75	Tyr	Gly	Asn	Ser	Val 80	
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Thr	Lys 210	Gln	Ile	Arg	Leu	His 215	Ala	Thr	Gly	Phe	Arg 220	Asp	Pro	Ser	Thr
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gat Asp 65	ggc	ttc Phe	ttt Phe	atg Met	ctg Leu 70	ctc Leu	ttt Phe	cca Pro	ggt Gly	aca Thr 75	tat Tyr	ggc	aat Asn	agc Ser	gtg Val 80	240
				85	aat Asn	Val	Val	irp	90	Pne	Ala	Asn	Asn	Ser 95	Ser	288
			100		tgc Cys	Jeu	aer	105	Pne	Tyr	ьeu	Leu	Lys 110	Ile	Ala	336
aat Asn	ata Ile	tcg Ser 115	cac His	cca Pro	ttt Phe	ttc Phe	ttc Phe 120	tgg Trp	ctg Leu	aag Lys	cta Leu	aag Lys 125	atc Ile	aac Asn	aag Lys	384

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ctc ;				245			- 110	neu	250	Met	Tnr	Ser	Ser	Ala 255	Leu	768
att d Ile I			260	-			204	265	116	стА	Asp	TTe	Val 270	Thr	Val	816
att t Ile E	:	275					280	+T6	тец	тте	Met	Gly 285	Asn	Ser	Lys	864
ttt a Phe A 2	90					295		neu	aga Arg	rne	gtg Val 300	aag Lys	tgt Cys	ttc Phe	ctt Leu	912
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- Asp Gly Phe Phe Met Leu Leu Phe Pro Gly Thr Tyr Gly Asn Ser Val 70 75 80
- Leu Val Ser Ile Val Asn Val Val Trp Thr Phe Ala Asn Asn Ser Ser 85 90 95
- Leu Trp Phe Thr Ser Cys Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala 100 105 110
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- His Glu Glu Asn Ile Thr Trp Lys Phe Lys Val Ser Lys Ile Pro Gly 165 170 175
- Thr Phe Lys Gln Leu Thr Leu Asn Leu Gly Val Met Val Pro Phe Ile 180 185 190
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- Thr Lys Gln Ile Arg Leu His Ala Thr Gly Phe Arg Asp Pro Ser Thr 210 215 220
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Ser Val Pro Lys Asn Asp Asp Met Trp Tyr His Leu Phe Lys Val Ser His Glu Glu Asn Ile Thr Trp Lys Phe Lys Val Ser Lys Ile Pro Gly Thr Phe Lys Gln Leu Thr Leu Asn Leu Gly Ala Met Val Pro Phe Ile Leu Cys Leu Ile Ser Phe Phe Leu Leu Leu Phe Ser Leu Val Arg His 200 Thr Lys Gln Ile Arg Leu His Ala Thr Gly Phe Arg Asp Pro Ser Thr Glu Ala His Met Arg Ala Ile Lys Ala Val Ile Ile Phe Leu Leu Leu Ile Val Tyr Tyr Pro Val Phe Leu Val Met Thr Ser Ser Ala Leu 245 250 Ile Pro Gln Gly Lys Leu Val Leu Met Ile Gly Asp Ile Val Thr Val 260 Ile Phe Pro Ser Ser His Ser Phe Ile Leu Ile Met Gly Asn Ser Lys 275 280 285 Leu Arg Glu Ala Phe Leu Lys Met Leu Arg Phe Val Lys Cys Phe Leu 290 295 300 Arg Arg Arg Lys Pro Phe Val Pro 305 <210> 117 <211> 939 <212> DNA <213> homo sapiens <220> <221> CDS <222> (1)..(939) <220> <221> variation <222> (201)..(201) <223> SNP

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120

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- Thr Phe Lys Gln Leu Thr Leu Asn Leu Gly Val Met Val Pro Phe Ile
- Leu Cys Leu Ile Ser Phe Phe Leu Leu Leu Phe Ser Leu Val Arg His
- Thr Lys Gln Ile Arg Leu His Ala Thr Gly Phe Arg Asp Pro Ser Thr
- Glu Ala His Met Arg Ala Ile Lys Ala Val Ile Ile Phe Leu Leu 230
- Leu Ile Val Tyr Tyr Pro Val Phe Leu Val Met Thr Ser Ser Ala Leu 245 250

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Ile Phe Pro Ser Ser His Ser Phe Ile Leu Ile Met Gly Asn Ser Lys 280

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		21	5				28	0			.c M	a C (	285 24.9	Asn	Se	c aag		864
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Asp Gly Leu Phe Met Leu Leu Phe Pro Gly Thr Tyr Gly Asn Ser Val 75

Leu Val Ser Ile Val Asn Val Val Trp Thr Phe Ala Asn Asn Ser Ser 90

Leu Trp Phe Thr Ser Cys Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala 105

Asn Ile Ser His Pro Phe Phe Phe Trp Leu Lys Leu Lys Ile Asn Lys

Val	Met	Leu	Ala	Ile	Leu	Leu	Gly	Ser	Phe	Leu	Ile	Ser	Leu	Tle	Tla
	130					135					140			++0	TTC

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His Glu Glu Asn Ile Thr Trp Lys Phe Lys Val Ser Lys Ile Pro Gly 165 170 175

Thr Phe Lys Gln Leu Thr Leu Asn Leu Gly Val Met Val Pro Phe Ile 180 185 190

Leu Cys Leu Ile Ser Phe Phe Leu Leu Phe Ser Leu Val Arg His

Thr Lys Gln Ile Arg Leu His Ala Thr Gly Phe Arg Asp Pro Ser Thr 210 215 220

Glu Ala His Met Arg Ala Ile Lys Ala Val Ile Ile Phe Leu Leu 225 230 235 240

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Phe Ser Asn Tyr Ile Phe Leu Trp Leu Lys Ser Arg Thr Asn Met Val

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Ala Tyr Ile Ala Lys Ile Leu Asn Asp Tyr Lys Met Lys Asn Asp Thr 145 150 155 160

Val Trp Asp Leu Asn Met Tyr Lys Ser Glu Tyr Phe Ile Lys Gln Ile 165 170 175

Leu Leu Asn Leu Gly Val Ile Phe Phe Phe Thr Leu Ser Leu Ilé Thr 180 185 190

Cys Ile Phe Leu Ile Ile Ser Leu Trp Arg His Asn Arg Gln Met Gln
195 200 205

Ser Asn Val Thr Gly Leu Arg Asp Ser Asn Thr Glu Ala His Val Lys 210 220

Ala Met Lys Val Leu Ile Ser Phe Ile Ile Leu Phe Ile Leu Tyr Phe 225 230 235 240

Ile Gly Met Ala Ile Glu Ile Ser Cys Phe Thr Val Arg Glu Asn Lys 245 250 255

Leu Leu Leu Met Phe Gly Met Thr Thr Thr Ala Ile Tyr Pro Trp Gly 260 265 270

His Ser Phe Ile Leu Ile Leu Gly Asn Ser Lys Leu Lys Gln Ala Ser 275 280 285

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tca Ser	gto Val	tt: Phe	t ggg = Gly 20	g gtt / Val	tto Lei	r Gly a ggc	g aat 7 Asr	gga Gly 25	ttt Phe	att Ile	e Gly	a ctt / Leu	gta Val	a aac L Asr	tgc Cys	96
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ctt . Leu :	ccc Pro 130	ttc Phe	atg Met	ata Ile	gta Val	ttc Phe 135	tta Leu	ctt Leu	att Ile	tca Ser	tcg Ser 140	tta Leu	ctt Leu	aat Asn	ttt Phe	432
gca 1	tac	att	gcg	aag	att	ctt	aat	gat	tat	aaa	atg	aag	aat	gac	aca	480

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Ala m					218	/447						JS2004/019489
Ala Tyr II							,				160	
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tgt att tt Cys Ile Ph 19	5		2	00	y	11.1.0	ASII	205	GIn	Met	Gln	624
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gca atg aa: Ala Met Ly: 225		230				235	File	TTE	Leu	Tyr	Phe 240	720
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Val	Trp	Asp	Leu	Asn 165	Met	Tyr	Lys	Ser	Glu 170	Tyr	Phe	Ile	Thr	Gln 175	Ile
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His Ser Phe Ile Leu Ile Leu Gly Asn Ser Lys Leu Lys Gln Ala Ser

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Arg Val Thr 305

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att gac tgt gcc aag aat aag tta tct acg att ggc ttt att ctc acc 144 Ile Asp Cys Ala Lys Asn Lys Leu Ser Thr Ile Gly Phe Ile Leu Thr 35

ggc tta gct att tca aga att ttt ctg ata tgg ata ata att aca gat 192 Gly Leu Ala Ile Ser Arg Ile Phe Leu Ile Trp Ile Ile Ile Thr Asp 50

gga ttt ata cag ata ttc tct cca aat ata tat gcc tcc ggt aac cta 240 Gly Phe Ile Gln Ile Phe Ser Pro Asn Ile Tyr Ala Ser Gly Asn Leu

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65					70					75					80	
				85	•			, va.	90	: GTZ	/ Asr	n Gir	ı Ser	Se: 95	t atg r Met	288
			100	)		- 501	. 446	105	Tyr	Phe	e Leu	ı Lys	Il∈ 110	Ala )	a aat a Asn	336
		115	; <u> </u>				120	) Heu	груs	Ser	Arg	7 Thr 125	Asn	Met	g gtt Val	38,4
	130	)				135	Deu	neu	тте	ser	140	: Leu )	Leu	Asn	ttt Phe	432
145	5			-	150		non	nap	ı ўr	155	Thr	. Lys	Asn	Asp	aca Thr	480
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			180	1	val	***	FIIE	185	Pne	Thr	Leu	Ser	Leu 190	Ile	aca Thr	576
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gca Ala 225	atg Met	aaa Lys	gtt Val	ttg Leu	ata Ile 230	tct Ser	ttc Phe	atc Ile	тте	ctc Leu 235	ttt Phe	atc Ile	ttg Leu	tat Tyr	ttt Phe 240	720
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cac His	tca Ser	ttt Phe 275	atc Ile	tta Leu	att Ile	cta Leu	gga Gly 280	aac Asn	agc Ser	aag Lys	cta Leu	aag Lys 285	caa Gln	gcc Ala	tct Ser	864
ttg Leu	agg Arg 290	gta Val	ctg Leu	cag Gln		ttg Leu 295	aag Lys	tgc Cys	tgt Cys	GIU	aaa Lys 300	agg Arg	aaa Lys	aat Asn	ctc Leu	912
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Ile Asp Cys Ala Lys Asn Lys Leu Ser Thr Ile Gly Phe Ile Leu Thr 35 40 45

Gly Leu Ala Ile Ser Arg Ile Phe Leu Ile Trp Ile Ile Ile Thr Asp 50 55 60

Gly Phe Ile Gln Ile Phe Ser Pro Asn Ile Tyr Ala Ser Gly Asn Leu 70 75 80

Ile Glu Tyr Ile Ser Tyr Phe Trp Val Ile Gly Asn Gln Ser Ser Met 85 90 95

Trp Phe Ala Thr Ser Leu Ser Ile Phe Tyr Phe Leu Lys Ile Ala Asn 100 105 110

Phe Ser Asn Tyr Ile Phe Leu Trp Leu Lys Ser Arg Thr Asn Met Val 115 120 125

Leu Pro Phe Met Ile Val Phe Leu Leu Ile Ser Ser Leu Leu Asn Phe 130 135 140

Ala Tyr Ile Ala Lys Ile Leu Asn Asp Tyr Lys Thr Lys Asn Asp Thr 145 150 155 160

Val Trp Asp Leu Asn Met Tyr Lys Ser Glu Tyr Phe Ile Lys Gln Ile 165 170 175

Leu Leu Asn Leu Gly Val Ile Phe Phe Phe Thr Leu Ser Leu Ile Thr 180 185 185

Cys Ile Phe Leu Ile Ile Ser Leu Trp Arg His Asn Arg Gln Met Gln
195 200 205

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Ala 225	a Me	t Li	⁄s Va	l Le	u Ile 230	e Ser O	: Phe	≀lle	∍ Ile	235	ı Phe	e Il	e Leı	u Ty	r Phe 240	
Ile	e Gl	у Ме	et Al	a Il 24	e Glı 5	ı Ile	e Ser	· Cys	Ph∈ 250	e Thr	· Val	L Ar	g Glı	1 Ası 25:	n Lys 5	
Leu	ı Le	u Le	u Me 26	t Ph	e Gl	/ Met	Thr	Thr 265	Thr	: Ala	Ile	э Туз	r, Pro 270		e Gly	
His	S Se	r Ph 27	e Il 5	e Le	u Ile	e Leu	Gly 280	Asn	Ser	. Lys	Leu	Lys 285	Glr	n Ala	a Ser	
Leu	290	y Va )	l Le	u Glı	n Glr	Leu 295	Lys	Суз	Cys	Glu	Lys 300	Arg	J Lys	Asr	1 Leu	
Arg 305	Va.	l Th	r					f								•
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ttc Phe	ata Ile	att	ggg Gly 20	aat Asn	ttg Leu	agc Ser	aat Asn	gga Gly 25	ttt Phe	ata Ile	gta Val	ctg Leu	atc Ile 30	aac Asn	tgc Cys	96
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agt	tgg	ttt	tta	gct	ctg	cat	tat (	cta	gcc	ata	ttt	gtg	tct	gga	aca	240

WO 2005/00/891		PCT/US2004/0194
	227/447	FC1/US2004/0194

										/5					y Thr 80	
				85		,	. 501	· +-F	90	≀ va.	L Sei	r Ası	n Hi	s Phe 95	c aat e Asn	
cto Let	c tgg ı Trp	ctt Leu	gct Ala 100	aca Thr	ato Ile	ttc Phe	ago Ser	ato 11e	FILE	tat Tyr	tto Lei	g cto 1 Lei	c aaa ı Lys 110	s Ile	a gcg e Ala	336
agt Sei	ttc Phe	tct Ser 115	ago Ser	cct Pro	gct Ala	ttt Phe	ctc Leu 120	- Y-	ttg Lev	ı aaçı Lys	ı tgo Trp	g aga Arg 125	y Val	a aad L Asr	aaa Lys	384
gtg Val	att Ile 130	Leu	ı atg ı Met	ata Ile	ctg Leu	cta Leu 135	gga Gly	acc Thr	ttg Leu	gtc Val	tto Phe	: Let	ttt Phe	tta E Lev	aat Asn	432
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gtg Val	tcg Ser	gtc Val	aaa Lys 180		act Thr	atg Met	act Thr	atg Met 185	ttc Phe	agt Ser	cta Leu	aca Thr	cca Pro	Phe	act Thr	576
gtg Val	gcc Ala	ttc Phe 195	atc Ile	tct Ser	ttt Phe	ctc Leu	ctg Leu 200	tta Leu	att Ile	ttc Phe	tcc Ser	ctg Leu 205	Gln	aaa Lys	cat His	624
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aag Lys 225	gtc Val	cat His	aca Thr		gcc Ala 230	ttg Leu	aaa Lys	att Ile	gtg Val	atc Ile 235	tca Ser	ttc Phe	ctt Leu	tta Leu	ttc Phe 240	720
tat Tyr	gct Ala	agt Ser	ttc Phe	ttt Phe 245	cta Leu	tgt Cys	gtt Val	ctc Leu	ata Ile 250	tca Ser	tgg Trp	att Ile	tct Ser	gag Glu 255	ctg Leu	768
tat Tyr	cag Gln	aac Asn	aca Thr 260	gtg Val	atc Ile	tac Tyr	2200	ctt Leu 265	tgt Cys	gag Glu	acg Thr	att Ile	gga Gly 270	gtc Val	ttc Phe	816
		275					280	neu	тте	ьеи	GΤĀ	Asn 285	Ala	Lys	Leu	864
aga Arg	cag Gln 290	gcc Ala	ttt Phe	ctt Leu		gtg Val 295	gca Ala	gct Ala	aag Lys	val	tgg Trp 300	gct Ala	aaa Lys	cga Arg	tga	912

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Ile Asp Trp Val Ser Lys Arg Glu Leu Ser Ser Val Asp Lys Leu Leu 35 40 45

Ile Ile Leu Ala Ile Ser Arg Ile Gly Leu Ile Trp Glu Ile Leu Val 50 60

Ser Trp Phe Leu Ala Leu His Tyr Leu Ala Ile Phe Val Ser Gly Thr 75 80

Gly Leu Arg Ile Met Ile Phe Ser Trp Ile Val Ser Asn His Phe Asn 85 90 95

Leu Trp Leu Ala Thr Ile Phe Ser Ile Phe Tyr Leu Leu Lys Ile Ala 100 105 110

Ser Phe Ser Ser Pro Ala Phe Leu Tyr Leu Lys Trp Arg Val Asn Lys 115 120 125

Val Ile Leu Met Ile Leu Leu Gly Thr Leu Val Phe Leu Phe Leu Asn 130 135 140

Leu Ile Gln Ile Asn Met His Ile Lys Asp Trp Leu Asp Arg Tyr Glu 145 150 155 160

Arg Asn Thr Trp Asn Phe Ser Met Ser Asp Phe Glu Thr Phe Ser 165 170 175

Val Ser Val Lys Phe Thr Met Thr Met Phe Ser Leu Thr Pro Phe Thr 180 185 190

Val Ala Phe Ile Ser Phe Leu Leu Leu Ile Phe Ser Leu Gln Lys His 195 200 205

Leu Gln Lys Met Gln Leu Asn Tyr Lys Gly His Arg Asp Pro Arg Thr 210 215 220

Lys Va 225	l His	Thr A	sn Ala 230	a Leu	Lys	: Ile	va]	L Ile 235	e Ser	: Phe	e Lei	ı Leı	u Phe 240	
Tyr Al	a Ser	Phe Pl	ne Lei 15	ı Cys	Val	. Leu	11e 250	e Ser	Trp	) Ile	e Sei	Gl: 25	ı Leu 5	
Tyr Gl	n Asn	Thr Va 260	al Ile	Tyr	Met	Leu 265	Cys	Glu	Thr	: Ile	e Gly 270	/ Val	l Phe	
Ser Pro	Ser 275	Ser Hi	s Ser	Phe	Leu 280	Leu	Ile	: Leu	Gly	Asn 285	Ala	Lуs	Leu	
Arg Gli 290	n Ala :	Phe Le	eu Lev	Val 295	Ala	Ala	Lys	Val	Trp 300	Ala	Lys	Arg	ſ	
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ttc ata Phe Ile		igg aa Sly As: 80	t ttg n Leu	agc Ser	aat Asn	gga Gly 25	ttt Phe	ata Ile	gta Val	ctg Leu	atc Ile 30	aac Asn	tgc Cys	96
att gac Ile Asp	35		- 2,0	my	40	пец	ser	ser	Val	Asp 45	Lys	Leu	Leu	144
att atc Ile Ile 50				55		GLY	пец	тте	frp 60	GLu	Ile	Leu	Val	192
agt tgg Ser Trp 65	_		70	1112	TÄT	ьец .	Ата	75	Phe	Val	Ser	Gly	Thr 80	240
gga tta Gly Leu	aga a Arg I	tt ato le Met 85	att Ile	ttt Phe	agc Ser	тър	ata Ile 90	gtt Val	tct Ser	aat Asn	cac His	ttc Phe 95	aat Asn	288

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ctg Leu 145	ata Ile	caa Gln	ata Ile	aac Asn	atg Met 150	cat His	ata Ile	aaa Lys	gac Asp	tgg Trp 155	ctg Leu	gac Asp	cga Arg	tat Tyr	gaa Glu 160		480
aga Arg	aac Asn	aca Thr	act Thr	tgg Trp 165	aat Asn	ttc Phe	agt Ser	atg Met	agt Ser 170	gac Asp	ttt Phe	gaa Glu	aca Thr	ttt Phe 175	tca Ser		528
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gtg Val	gcc Ala	ttc Phe 195	atc Ile	tct Ser	ttt Phe	ctc Leu	ctg Leu 200	tta Leu	att Ile	ttc Phe	tcc Ser	ctg Leu 205	cag Gln	aaa Lys	cat His		624
ctc Leu	cag Gln 210	aaa Lys	atg Met	caa Gln	ctc Leu	aat Asn 215	tac Tyr	aaa Lys	gga Gly	cac His	aga Arg 220	gac Asp	ccc Pro	agg Arg	acc Thr		672
aag Lys 225	gtc Val	cat His	aca Thr	aat Asn	gcc Ala 230	ttg Leu	aaa Lys	att Ile	gtg Val	atc Ile 235	tca Ser	ttc Phe	ctt Leu	tta Leu	ttc Phe 240		720
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tat Tyr	cag Gln	agc Ser	aca Thr 260	gtg Val	atc Ile	tac Tyr	atg Met	ctt Leu 265	tgt Cys	gag Glu	acg Thr	att Ile	gga Gly 270	gtc Val	ttc Phe	;	816
tct Ser	cct Pro	tca Ser 275	agc Ser	cac His	tcc Ser	LIIC	ctt Leu 280	ctg Leu	att Ile	cta Leu	gga Gly	aac Asn 285	gct Ala	aag Lys	tta Leu	1	864
	cag Gln 290	gcc Ala	ttt Phe	ctt Leu		gtg Val 295	gca Ala	gct Ala	aag Lys	gta Val	tgg Trp 300	gct Ala	aaa Lys	cga Arg	tga	9	912
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Ile Asp Trp Val Ser Lys Arg Glu Leu Ser Ser Val Asp Lys Leu Leu 35 40 45

Ile Ile Leu Ala Ile Ser Arg Ile Gly Leu Ile Trp Glu Ile Leu Val 50 55 60

Ser Trp Phe Leu Ala Leu His Tyr Leu Ala Ile Phe Val Ser Gly Thr 70 75 80

Gly Leu Arg Ile Met Ile Phe Ser Trp Ile Val Ser Asn His Phe Asn 85 90 95

Leu Trp Leu Ala Thr Ile Phe Ser Ile Phe Tyr Leu Leu Lys Ile Ala 100 105 110

Ser Phe Ser Ser Pro Ala Phe Leu Tyr Leu Lys Trp Arg Val Asn Lys 115 120 125

Val Ile Leu Met Ile Leu Leu Gly Thr Leu Val Phe Leu Phe Leu Asn 130 135 140

Leu Ile Gln Ile Asn Met His Ile Lys Asp Trp Leu Asp Arg Tyr Glu 145 150 155 160

Arg Asn Thr Trp Asn Phe Ser Met Ser Asp Phe Glu Thr Phe Ser 165 170 175

Val Ser Val Lys Phe Thr Met Thr Met Phe Ser Leu Thr Pro Phe Thr 180 185 190

Val Ala Phe Ile Ser Phe Leu Leu Leu Ile Phe Ser Leu Gln Lys His 195 200 205

Leu Gln Lys Met Gln Leu Asn Tyr Lys Gly His Arg Asp Pro Arg Thr 210 215 220

Lys Val His Thr Asn Ala Leu Lys Ile Val Ile Ser Phe Leu Leu Phe 225 230 235 240

Tyr Ala Ser Phe Phe Leu Cys Val Leu Ile Ser Trp Ile Ser Glu Leu 245 250 255

Tyr Gln Ser Thr Val Ile Tyr Met Leu Cys 260 265	Glu Thr Ile Gly Val Phe 270
Ser Pro Ser Ser His Ser Phe Leu Leu Ile : 275 280	Leu Gly Asn Ala Lys Leu 285
Arg Gln Ala Phe Leu Leu Val Ala Ala Lys v 290 295	Val Trp Ala Lys Arg 300
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act gct ttg gca atc tct cga att agc ctg gt Thr Ala Leu Ala Ile Ser Arg Ile Ser Leu Va 50 55	1 Trp Leu Ile Phe Gly 60
agc tgg tgt gtg tct gtg ttt ttc cca gct tt Ser Trp Cys Val Ser Val Phe Phe Pro Ala Le 65 70 75	u rne Ala Thr Glu Lys 80
atg ttc aga atg ctt act aat atc tgg aca gto	T at a set
Met Phe Arg Met Leu Thr Asn Ile Trp Thr Val 85 90 gtc tgg tta gct aca ggc ctc ggt act ttt tat Val Trp Leu Ala Thr Gly Leu Gly Thr Phe Try	I IIe Asn His Phe Ser 95

233/447 100

			100					105					110			
		115					120		nec	гъўз	rr	125	y Val	. Lys	a aag B Lys	384
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145	1				150		110	VOII	. WIG	155	. TTE	Asņ	Gly	Tyr	aga Arg 160	480
		-		165	001	001	дад	ser	170	Asn	Phe	Thr	Arg	Phe 175		528
		att Ile	180		****	Der	TIIT	185	Pne	TTE	Phe	Ile	Pro 190	Phe	Thr	576
		ctg Leu 195				Leu	200	neu	тте	Pne	Ser	Met 205	Trp	Lys	His	624
	210	aag Lys			*****	215	Val	тÃS	тте	ser	G1y 220	Asp	Ala	Ser	Thr	672
225		cac His	J	1	230	270	Der	vaı	тте	235	Phe	Phe	Leu	Leu	Tyr 240	720
		ttc Phe		245	201	1116	rne	тте	250	Val	Trp	Thr	Ser	Glu 255	Arg	768
		gaa Glu	260		0		пец	265	GTU	vaı	Met	Gly	Met 270	Ala	Туг	816
		tgt Cys 275			-4-		280	116	Dea	стА	Asn	Lуs 285	Lys	Leu	Arg	864
	290	tct Ser				295	neu	ırb	ren	Arg	300	Met	Phe	aaa Lys	gat Asp	912
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- Phe Ile Ile Gly Asn Leu Gly Asn Ser Phe Ile Ala Leu Val Asn Cys 20 25 30
- Ile Asp Trp Val Lys Gly Arg Lys Ile Ser Ser Val Asp Arg Ile Leu 35 40 45
- Thr Ala Leu Ala Ile Ser Arg Ile Ser Leu Val Trp Leu Ile Phe Gly 50 55 60
- Ser Trp Cys Val Ser Val Phe Phe Pro Ala Leu Phe Ala Thr Glu Lys 70 75 80
- Met Phe Arg Met Leu Thr Asn Ile Trp Thr Val Ile Asn His Phe Ser 85 90 95
- Val Trp Leu Ala Thr Gly Leu Gly Thr Phe Tyr Phe Leu Lys Ile Ala 100 105 110
- Asn Phe Ser Asn Ser Ile Phe Leu Tyr Leu Lys Trp Arg Val Lys Lys 115 120 125
- Val Val Leu Val Leu Leu Val Thr Ser Val Phe Leu Phe Leu Asn 130 135 140
- Ile Ala Leu Ile Asn Ile His Ile Asn Ala Ser Ile Asn Gly Tyr Arg 145 150 155 160
- Arg Asn Lys Thr Cys Ser Ser Asp Ser Ser Asn Phe Thr Arg Phe Ser 165 170 175
- Ser Leu Ile Val Leu Thr Ser Thr Val Phe Ile Phe Ile Pro Phe Thr 180 185 190
- Leu Ser Leu Ala Met Phe Leu Leu Leu Ile Phe Ser Met Trp Lys His 195 200 205
- Arg Lys Lys Met Gln His Thr Val Lys Ile Ser Gly Asp Ala Ser Thr 210 220
- Lys Ala His Arg Gly Val Lys Ser Val Ile Thr Phe Phe Leu Leu Tyr 230 235 240

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Let	ı Glı	u Gli	1 Asr 260	ı Lei	ı Ile	: Ile	e Le≀	1 Sei 265	c Gli	n Val	L Me	t Gly	/ Met	E Al	a Tyr	
Pro	Se:	c Cys 275	s His	s Ser	Cys	: Val	Leu 280	ı Ile	e Let	ı Gly	/ Ası	n Lys 285	Lys	5 Le	u Arg	
Glr	Ala 290	a Ser	Leu	Ser	Val	Leu 295	ı Lev	ı Trp	Leu	Arg	Ту <u>з</u> 300	Met	Phe	. Ly	s Asp	
Gly 305	Glu	Pro	Ser	Gly	His 310	Lys	Glu	. Phe	Arg	Glu 315	Ser	: Ser				
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ttt Phe	ata Ile	att Ile	gga Gly 20	aat Asn	tta Leu	gga Gly	aat Asn	agt Ser 25	ttc Phe	ata Ile	gca Ala	ctg Leu	gtg Val 30		tgt Cys	96
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act Thr	gct Ala 50	ttg Leu	gca Ala	atc Ile	tct Ser	cga Arg 55	att Ile	agc Ser	ctg Leu	gtt Val	tgg Trp 60	tta Leu	ata Ile	ttc Phe	gga Gly	192
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aat ttt tct aac tct att ttt ctc tac cta aag tgg agg gtt Asn Phe Ser Asn Ser Ile Phe Leu Tyr Leu Lys Trp Arg Val 115 120 125	Lys Lys
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aga aac aag act tgc agt tct gat tca agt aac ttt aca cga Arg Asn Lys Thr Cys Ser Ser Asp Ser Ser Asn Phe Thr Arg 165 170	ttt tcc 528 Phe Ser
agt ctt att gta tta acc agc act gtg ttc att ttc ata ccc Ser Leu Ile Val Leu Thr Ser Thr Val Phe Ile Phe Ile Pro 180 185 190	Phe Thr
ttg tcc ctg gca gtg ttt ctt ctc ctc atc ttc tcc atg tgg : Leu Ser Leu Ala Val Phe Leu Leu Leu Ile Phe Ser Met Trp : 195 200 205	Lys His
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aaa gcc cac aga gga gtt aaa agt gtg atc act ttc ttc cta c Lys Ala His Arg Gly Val Lys Ser Val Ile Thr Phe Phe Leu I 235 235	Geu Tyr
gcc att ttc tct ctg tct ttt ttc ata tca gtt tgg acc tct g Ala Ile Phe Ser Leu Ser Phe Phe Ile Ser Val Trp Thr Ser G 245 250 2	yaa agg 768 Lu Arg
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cct tca tgt cac tca tgt gtt ctg att ctt gga aac aag aag c Pro Ser Cys His Ser Cys Val Leu Ile Leu Gly Asn Lys Lys L 275 280 285	eu Arg
cag gcc tct ctg tca gtg cta ctg tgg ctg agg tac atg ttc ag Gln Ala Ser Leu Ser Val Leu Leu Trp Leu Arg Tyr Met Phe Ly 290 295 300	aa gat 912 ys Asp
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Thr Ala Leu Ala Ile Ser Arg Ile Ser Leu Val Trp Leu Ile Phe Gly 50 55 60

Ser Trp Cys Val Ser Val Phe Phe Pro Ala Leu Phe Ala Thr Glu Lys 70 75 80

Met Phe Arg Met Leu Thr Asn Ile Trp Thr Val Ile Asn His Phe Ser 85 90 95

Val Trp Leu Ala Thr Gly Leu Gly Thr Phe Tyr Phe Leu Lys Ile Ala 100 105 110

Asn Phe Ser Asn Ser Ile Phe Leu Tyr Leu Lys Trp Arg Val Lys Lys 115 120 125

Val Val Leu Val Leu Leu Val Thr Ser Val Phe Leu Phe Leu Asn 130 135 140

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Arg Asn Lys Thr Cys Ser Ser Asp Ser Ser Asn Phe Thr Arg Phe Ser 165 170 175

Ser Leu Ile Val Leu Thr Ser Thr Val Phe Ile Phe Ile Pro Phe Thr 180 185 190

Leu Ser Leu Ala Val Phe Leu Leu Leu Ile Phe Ser Met Trp Lys His 195 200 205

Arg Lys Lys Met Gln His Thr Val Lys Ile Ser Gly Asp Ala Ser Thr 210 215 220

T 83 1	

Lys Ala His Arg Gly Val Lys Ser Val Ile Thr Phe Phe Leu Leu T	yr
225 230 235 2	240

Ala Ile Phe Ser Leu Ser Phe Phe Ile Ser Val Trp Thr Ser Glu Arg 245 250 255

Leu Glu Glu Asn Leu Ile Ile Leu Ser Gln Val Met Gly Met Ala Tyr
260 265 270

Pro Ser Cys His Ser Cys Val Leu Ile Leu Gly Asn Lys Lys Leu Arg 275 280 285

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Phe Ile Ile Gly Asn Leu Gly Asn Ser Phe Ile Ala Leu Val Asn Cys
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PCT/US2004/019489 239/447 50

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Ser 65	Trp	Cys	Val	Ser	Val 70	Phe	Phe	Pro	Ala	Leu 75	Phe	Ala	Thr	Glu	Lys 80
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Ser Leu Ile Val Leu Thr Ser Thr Val Phe Ile Phe Ile Pro Phe Thr

185

190

180

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Arg Lys Lys Met Gln His Thr Val Lys Ile Ser Gly Asp Ala Ser Thr

Lys Ala His Arg Gly Val Lys Ser Val Ile Thr Phe Phe Leu Leu Tyr 235

Ala Ile Phe Ser Leu Ser Phe Phe Ile Ser Val Trp Thr Ser Glu Arg

Leu Glu Glu Asn Leu Ile Ile Leu Ser Gln Val Met Gly Met Ala Tyr 265

Pro Ser Cys His Ser Cys Val Leu Ile Leu Gly Asn Lys Lys Leu Arg 280 285

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Pro Arg Asn Ser Thr Val Thr Asp Lys Leu Glu Asn Phe His Gln Tyr 170

Gln Phe Gln Ala His Thr Val Ala Leu Val Ile Pro Phe Ile Leu Phe 185

Leu Ala Ser Thr Ile Phe Leu Met Ala Ser Leu Thr Lys Gln Ile Gln 200

His His Ser Thr Gly His Cys Asn Pro Ser Met Lys Ala His Phe Thr 215 220

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Pro Arg Asn Ser Thr Val Thr Asp Lys Leu Glu Asn Phe His Gln Tyr 165

Gln Phe Gln Ala His Thr Val Ala Leu Val Ile Pro Phe Ile Leu Phe 180

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249/44 /	
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- Ile Leu Leu Gly Ser Leu Met Ile Thr Cys Val Thr Ile Ile Pro Ser 130 140
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- Pro Arg Asn Ser Thr Val Thr Asp Lys Leu Glu Lys Phe His Gln Tyr 165 170 175
- Gln Phe Gln Ala His Thr Val Ala Leu Val Ile Pro Phe Ile Leu Phe 180 185 190
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- His His Ser Thr Gly His Cys Asn Pro Ser Met Lys Ala His Phe Thr 210 215 220
- Ala Leu Arg Ser Leu Ala Val Leu Phe Ile Val Phe Thr Ser Tyr Phe 225 230 235 235
- Leu Thr Ile Leu Ile Thr Ile Ile Gly Thr Leu Phe Asp Lys Arg Cys 245 250 255
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Leu Asn Asn Phe Cys Ser Tyr Phe Asn Leu Asn Tyr Val Leu Cys Asn 80 '

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Leu Thr Ile Leu Ile Thr Ile Ile Gly Thr Leu Phe Asp Lys Arg Cys

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1 gag to	a ccc e Pro c ttg r Leu	aca Thr 20	att Ile	att Ile	Thr gtg Val	Cag Gln	agc Ser 25	Phe 10 agc Ser	Met cta Leu	Ile att Ile	Ile gtt Val	Tyr gca Ala 30	Val 15 gtg Val	Leu ctg Leu	
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		115					120	)		, ne	n wrć	леі 125	ı Pne	Pro	c tgg o Trp	384
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145					150					155	5	мет	GIU	His	cta Leu 160	480
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- Leu Asn Asn Phe Cys Ser Tyr Phe Asn Leu Asn Tyr Val Leu Cys Asn 75
- Leu Thr Ile Thr Trp Glu Phe Phe Asn Ile Leu Thr Phe Trp Leu Asn 90
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- His Ile Phe Leu Trp Leu Arg Trp Arg Ile Leu Arg Leu Phe Pro Trp
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- Gln Phe Gln Ala His Thr Val Ala Leu Val Ile Pro Phe Ile Leu Phe 185 190
- Leu Ala Ser Thr Ile Phe Leu Met Ala Ser Leu Thr Lys Gln Ile Gln 200
- His His Ser Thr Gly His Cys Asn Pro Ser Met Lys Ala His Phe Thr 215
- Ala Leu Arg Ser Leu Ala Val Leu Phe Ile Val Phe Thr Ser Tyr Phe 230
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257/447

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96

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gtg Val	ata Ile	tca Ser	tcc Ser	tgt Cys	gct Ala	gcc Ala	ttc Phe	atc Ile	tct Ser	gtg Val	ccc Pro	cta Leu	ctg Leu		ctg	816

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259/447	
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Leu Gly Ile Ile Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Trp 145 150 155 160	
Cys Phe Phe Ser Arg Pro His Phe Thr Val Thr Thr Val Leu Phe Met 165 170 175	

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Cys Pro Ser Gly His Ala Ala Val Leu Ile Ser Gly Asn Ala Lys Leu 290 295 300

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ctg Leu 145	ggt Gly	att Ile	att Ile	ctt Leu	tgc Cys 150	tcc Ser	tgc Cys	atc Ile	tgc Cys	act Thr 155	gtc Val	ctc Leu	tgt Cys	gtt Val	tgg Trp 160	480
tgc Cys	ttt Phe	ttt Phe	agc Ser	aga Arg 165	cct Pro	cac His	ttc Phe	aca Thr	gtc Val 170	aca Thr	act Thr	gtg Val	cta Leu	ttc Phe 175	atg Met	528
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gtg Val	ata Ile	tca Ser	tcc Ser 260	tgt Cys	gtt Val	gcc Ala	ttc Phe	atc Ile 265	tct Ser	gtg Val	ccc Pro	cta Leu	ctg Leu 270	att Ile	ctg Leu	816
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tgt Cys	ccc Pro 290	tct Ser	GŢĀ āāā	cat His	gca Ala	gcc Ala 295	atc Ile	ctg Leu	atc Ile	tca Ser	ggc Gly 300	aat Asn	gcc Ala	aag Lys	ttg Leu	912
agg Arg 305	aga Arg	gct Ala	gtg Val	atg Met	acc Thr 310	att Ile	ctg Leu	ctc Leu	tgg Trp	gct Ala 315	cag Gln	agc Ser	agc Ser	ctg Leu	aag Lys 320	960
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Pro Leu Ser Asn Ser Asp Cys Val Leu Leu Cys Leu Ser Ile Ser Arg 50

Leu 65	Phe	Leu	His	Gly	Leu 70	Leu	Phe	Leu	Ser	Ala 75	Ile	Gln	Leu	Thr	His 80
Phe	Gln	Lys	Leu	Ser 85	Glu	Pro	Leu	Asn	His 90	Ser	Tyr	Gln	Ala	Ile 95	Ile
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Суз	Phe	Phe	Ser	Arg 165	Pro	His	Phe	Thr	Val 170	Thr	Thr	Val	Leu	Phe 175	Met
Asn	Asn	Asn	Thr 180	Arg	Leu	Asn	Trp	Gln 185	Ile	Lys	Asp	Leu	Asn 190	Leu	Phe
Tyr	Ser	Phe 195	Leu	Phe	Cys	Tyr	Leu 200	Trp	Ser	Val	Pro	Pro 205	Phe	Leu	Leu
Phe	Leu 210	Val	Ser	Ser	Gly	Met 215	Leu	Thr	Val	Ser	Leu 220	Gly	Arg	His	Met
Arg 225	Thr	Met	Lys	Val	Tyr 230	Thr	Arg	Asn	Ser	Arg 235	Asp	Pro	Ser	Leu	Glu 240
Ala	His	Ile	Lys	Ala 245	Leu	Lys	Ser	Leu	Val 250	Ser	Phe	Phe	Cys	Phe 255	Phe
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#### 264/447

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Thr Phe Leu Phe Ile Ser Val Leu Glu Phe Ala Val Gly Phe Leu Thr
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aat gcc ttc gtt ttc ttg gtg aat ttt tgg gat gta gtg aag agg cag
Asn Ala Phe Val Phe Leu Val Asn Phe Trp Asp Val Val Lys Arg Gln
                                                                      144
gca ctg agc aac agt gat tgt gtg ctg ctg tgt ctc agc atc agc cgg
Ala Leu Ser Asn Ser Asp Cys Val Leu Leu Cys Leu Ser Ile Ser Arg
                                                                      192
ctt ttc ctg cat gga ctg ctg ttc ctg agt gct atc cag ctt acc cgc
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			100	110	ALG	aac Asn	GIU	105	Asn	Leu	Trp	Leu	Ala 110	Ala	Суз	336
		115		- , , _	Cys	tcc Ser	120	ьeu	TTE	Arg	Phe	Ser 125	His	Thr	Phe	384
	130				Der	tgg Trp 135	var	ser	Arg	Ļўs	11e 140	Ser	Gln	Met	Leu	432
145	-				150	tcc Ser	Cys	тте	Cys	155	Val	Leu	Cys	Val	Trp 160	480
-			001	165	110	cac His	File	Thr	170	Thr	Thr	Val	Leu	Phe 175	Met	528
			180	9	neu	aac Asn	пр	185	TTE	гÀЗ	Asp	Leu	Asn 190	Leu	Phe	576
tat Tyr	tcc Ser	ttt Phe 195	ctc Leu	ttc Phe	tgc Cys	tat Tyr	ctg Leu 200	tgg Trp	tct Ser	gtg Val	cct Pro	cct Pro 205	ttc Phe	cta Leu	ttg Leu	624
ttt Phe	ctg Leu 210	gtt Val	tct Ser	tct Ser	GJĀ āāā	atg Met 215	ctg Leu	act Thr	gtc Val	tcc Ser	ctg Leu 220	gga Gly	agg Arg	cac His	atg Met	672
agg Arg 225	aca Thr	atg Met	aag Lys	gtc Val	tat Tyr 230	acc Thr	aga Arg	aac Asn	tct Ser	cgt Arg 235	gac Asp	ccc Pro	agc Ser	ctg Leu	gag Glu 240	720
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gtg Val	ata Ile	tca Ser	tcc Ser 260	tgt Cys	gct Ala	gcc Ala	ttc Phe	atc Ile 265	tct Ser	gtg Val	ccc Pro	cta Leu	ctg Leu 270	att Ile	ctg Leu	816
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tgt Cys	ccc Pro 290	tct Ser	<b>GJÀ</b> aaa	cat His	gca Ala	gcc Ala 295	atc Ile	ctg Leu	atc Ile	tca Ser	ggc Gly 300	aat Asn	gcc Ala	aag Lys	ttg Leu	912
agg Arg	aga Arg	gct Ala	gtg Val	atg Met	acc Thr	att Ile	ctg Leu	ctc Leu	tgg Trp	gct Ala	cag Gln	agc Ser	agc Ser	ctg Leu	aag Lys	960

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Ala Leu Ser Asn Ser Asp Cys Val Leu Leu Cys Leu Ser Ile Ser Arg 50 55 60

Leu Phe Leu His Gly Leu Leu Phe Leu Ser Ala Ile Gln Leu Thr Arg 70 75 80

Phe Gln Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Gln Ala Ile Ile 85 90 95

Met Leu Trp Met Ile Ala Asn Gln Ala Asn Leu Trp Leu Ala Ala Cys 100 105 110

Leu Ser Leu Leu Tyr Cys Ser Lys Leu Ile Arg Phe Ser His Thr Phe 115 120 125

Leu Ile Cys Leu Ala Ser Trp Val Ser Arg Lys Ile Ser Gln Met Leu 130 135 140

Leu Gly Ile Ile Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Trp
145 150 155 160

Cys Phe Phe Ser Arg Pro His Phe Thr Val Thr Thr Val Leu Phe Met
165 170 175

Asn Asn Asn Thr Arg Leu Asn Trp Gln Ile Lys Asp Leu Asn Leu Phe 180 185 190

Tyr Ser Phe Leu Phe Cys Tyr Leu Trp Ser Val Pro Pro Phe Leu Leu 195 200 205

Phe Leu Val Ser Ser Gly Met Leu Thr Val Ser Leu Gly Arg His Met 210 220

Arg Thr Met Lys Val Tyr Thr Arg Asn Ser Arg Asp Pro Ser Leu Glu 225 230 235 240

Ala His Ile Lys Ala Leu Lys Ser Leu Val Ser Phe Phe Cys Phe Phe 245 250 255

Val Ile Ser Ser Cys Ala Ala Phe Ile Ser Val Pro Leu Leu Ile Leu 260 265 270

Trp Arg Asp Lys Ile Gly Val Met Val Cys Val Gly Ile Met Ala Ala 275 280 285

Cys Pro Ser Gly His Ala Ala Ile Leu Ile Ser Gly Asn Ala Lys Leu 290 295 300

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aat gcc ttc gtt ttc ttg gtg aat ttt tgg gat gta gtg aag agg cag Asn Ala Phe Val Phe Leu Val Asn Phe Trp Asp Val Val Lys Arg Gln 35 40 45	144
gca ctg agc aac agt gat tgt gtg ctg ctg tgt ctc agc atc agc cgg Ala Leu Ser Asn Ser Asp Cys Val Leu Leu Cys Leu Ser Ile Ser Arg 50 55 60	192
ctt ttc ctg cat gga ctg ctg ttc ctg agt gct atc cag ctt acc cac Leu Phe Leu His Gly Leu Leu Phe Leu Ser Ala Ile Gln Leu Thr His 70 75 80	240
ttc cag aag ttg agt gaa cca ctg aac cac agc tac caa gcc atc atc Phe Gln Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Gln Ala Ile Ile 85 90 95	288
atg cta tgg atg att gca aac caa gcc aac ctc tgg ctt gct gcc tgc Met Leu Trp Met Ile Ala Asn Gln Ala Asn Leu Trp Leu Ala Ala Cys 100 105 110	336
ctc agc ctg ctt tac tgc tcc aag ctc atc cgt ttc tct cac acc ttc Leu Ser Leu Leu Tyr Cys Ser Lys Leu Ile Arg Phe Ser His Thr Phe 120 125	384
ctg atc tgc ttg gca agc tgg gtc tcc agg aag atc tcc cag atg ctc Leu Ile Cys Leu Ala Ser Trp Val Ser Arg Lys Ile Ser Gln Met Leu 130 135 140	432
ctg ggt att att ctt tgc tcc tgc atc tgc act gtc ctc tgt gtt tgg Leu Gly Ile Ile Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Trp 155 160	480
tgc ttt ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg Cys Phe Phe Ser Arg Pro His Phe Thr Val Thr Thr Val Leu Phe Met 165 170 175	528
Asn Asn Asn Thr Arg Leu Asn Trp Gln Ile Lys Asp Leu Asn Leu Phe 180 185 190	576
tat too ttt oto tto tgo tat otg tgg tot gtg cot cot tto ota ttg	624

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	agg Arg 225	Thi	a ato	g aaq t Lys	g gto s Val	tat L Tyr 230		aga Arg	aac Asn	tct Ser	cgt Arc 235	, Asi	c ccc Pro	ago Ser	ctg	gag Glu 240	720
•				-	245	5	. Lys	ser	теп	250	. Ser	Phe	e Phe	Cys	Phe 255		768
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Phe	Gln	Lys	Leu	Ser 85	: Glu	Pro	Leu	a Asn	His 90	s Ser	: Tyr	Gln	ı Ala	11e 95	: Ile
Met	Leu	Trp	Met 100	Ile	e Ala	Asn	Gln	Ala 105	Asn	Leu	ı Trp	Leu	Ala 110	Ala	Cys
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Leu 145	Gly	Ile	Ile	Leu	Cys 150	Ser	Cys	Ile	Cys	Thr 155	Val	Leu	Суз	Val	Trp 160
Cys	Phe	Phe	Ser	Arg 165	Pro	His	Phe	Thr	Val 170	Thr	Thr	Val	Leu	Phe 175	Met
Asn	Asn	Asn	Thr 180	Arg	Leu	Asn	Trp	Gln 185	Ile	Lys	Asp	Leu	Asn 190	Leu	Phe
Tyr	Ser	Phe 195	Leu	Phe	Cys	Tyr	Leu 200	Trp	Ser	Val	Pro	Pro 205	Phe	Leu	Leu
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Arg 225	Thr	Met	Lys	Val	Tyr 230	Thr	Arg	Asn	Ser	Arg 235	Asp	Pro	Ser	Leu	Glu 240
Ala	His	Ile	Lys	Ala 245	Leu	Lys	Ser	Leu	Val 250	Ser	Phe	Phe	Суз	Phe 255	Phe
Val	Ile	Ser	Ser 260	Cys	Ala	Ala	Phe	Ile 265	Ser	Val	Pro	Leu	Leu 270	Ile	Leu
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Cys	Pro 290	Ser	Gly	His	Ala	Ala 295	Ile	Leu	Ile	Ser	Gly 300	Asn	Ala	Lys	Leu
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gca Ala	ctg Leu 50	agc Ser	aac Asn	agt Ser	gat Asp	tgt Cys 55	gtg Val	ctg Leu	ctg Leu	tgt Cys	ctc Leu 60	agc Ser	atc Ile	agc Ser	cgg Arg	192
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Ala Leu Ser Asn Ser Asp Cys Val Leu Leu Cys Leu Ser Ile Ser Arg

Leu Phe Leu His Gly Leu Leu Phe Leu Ser Ala Ile Gln Leu Thr His 80

Phe Gln Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Gln Ala Ile Ile

Met Leu Trp Met Ile Ala Asn Gln Ala Asn Leu Trp Leu Ala Ala Cys 100 105 110

Leu Ser Leu Leu Tyr Cys Ser Lys Leu Ile Arg Phe Ser His Thr Phe

Leu Ile Cys Leu Ala Ser Trp Val Ser Arg Lys Ile Ser Gln Met Leu 135

Leu Gly Ile Ile Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Trp 150

Cys Phe Phe Ser Arg Pro His Phe Thr Val Thr Thr Val Leu Phe Met 165 170 175

Asn Asn Asn Thr Arg Leu Asn Trp Gln Ile Lys Asp Leu Asn Leu Phe 180 190

Tyr Ser Phe Leu Phe Cys Tyr Leu Trp Ser Val Pro Pro Phe Leu Leu 195 200 205

Phe Leu Val Ser Ser Gly Met Leu Thr Val Ser Leu Gly Arg His Met 220 Arg Thr Met Lys Val Tyr Thr Arg Asn Ser Arg Asp Pro Ser Leu Glu 235 Ala His Ile Lys Ala Leu Lys Ser Leu Val Ser Phe Phe Cys Phe Phe 250 Val Ile Ser Ser Cys Ala Ala Phe Ile Ser Val Pro Leu Leu Ile Leu 265 Trp Arg Asp Lys Ile Gly Val Met Val Cys Val Gly Ile Met Ala Ala 280 Cys Pro Ser Gly His Ala Ala Val Leu Ile Ser Gly Asn Ala Lys Leu 295 Arg Arg Ala Val Met Thr Ile Leu Leu Trp Ala Gln Ser Ser Leu Lys 310 320 Val Arg Ala Asp His Lys Ala Asp Ser Arg Thr Leu Cys 325 <210> 163 <211> 1002 <212> DNA <213> homo sapiens <220> <221> CDS <222> (1)..(1002) <220> <221> variation <222> (145)..(145) <223> SNP <220> <221> variation <222> (239)..(239) <223> SNP <220> <221> variation <222> (785)..(785) <223> SNP <220>

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Met Leu Thr Leu Thr Arg Ile Arg Thr Val Ser Tyr Glu Val Arg Ser 1 1 5 10 10 10 10 10 10 10 10 10 10 10 10 10	<22 <22	21> 22>	(88			)	_										
aat gcc ttc gtt ttc ttg gtg aat ttt tgg gat gta gtg aag agg cag Aon Ala Phe Val Phe Leu Val Asn Phe Trp Asp Val Val Lys Arg Gln Aon Ala Leu Ser Asn Ser Asp Cys Val Leu Leu Cys Leu Ser Ile Ser Arg So Cys Val Leu Leu Cys Leu Ser Ile Ser Arg So Cys Val Leu Leu Phe Leu Ser Ala Ile Gln Leu Thr His Ro So To	atg Met 1	tto Lev	g ac		5	•	,		3 T111	10	r sei	с ту:	r Glı	ı Va	l Arq 15	g Ser	
gca ctg agc aac agt gat tgt gtg ctg ctg tgt cta agc atc agc cgg leu Phe Leu His Gly Leu Leu Phe Leu Ser Asn Glu Phe Glu Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Glu Ala Ile Ile Ile Ile Ser Agr god atc agc atc atc agc agc ttc cag agt for Ala Ile Glu Leu Thr His god atc agc agc atc atc agc agc agc agc agc agc agc agc agc ag	aca Thr	ttt Phe	cto	g tto 1 Phe 20	c att	t tca e Ser	a gto Val	cto Lev	T GIC	g ttt 1 Phe	t gca e Ala	a gto	g ggg	/ Phe	t cto	g acc ı Thr	96
ctt ttc ctg cat gga ctg ctg ttc ctg agt gct atc cag ctt acc cac Leu Phe Leu His Gly Leu Leu Phe Leu Ser Ala Ille Gln Leu Thr His 80  ttc cag aag ttg agt gat cca ctg aac cac agc tac caa gcc atc atc 28 Phe Gln Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Gln Ala Ile Ile 95  atg cta tgg atg att gca aac caa gcc aac ctc tgg ctt gcc gcc tgc 85  Ala Asn Leu Trp Met Ile Ala Asn Gln Ala Asn Leu Trp Leu Ala Ala Cys 110  ctc agc ctg ctt tac tgc caag ctc aac ctc tgg ctt cac acc ttc agc ctg Leu Ser Leu Leu Tyr Cys Ser Lys Leu Ile Arg Phe Ser His Thr Phe 120  ctg atc tgc ttg gca agc tgg gtc tcc agg aag atc tcc cac acc ttc 130  ctg gt att att ctt tgc tcc tgc atc tgc acc glu Ile Ser Arg Lys Ile Ser Gln Met Leu Gly Ile Ile Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Trp 150  tgc ttt tt agc aga cct cac ttc aca gtc aca acc gtc acc acc ttc tg gtt tt ttc ttc atg ctc acc gt gtc Ile Cys Thr Val Leu Cys Val Trp 160  atg ctt ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg 165  ctg att ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg 165  ctg ttt ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg 165  ctg ttt ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg 165  ctg ttt ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg 165  ctg ttt ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg 165  at acc act acc agg ctg att acc acc tc acc tc acc acc acc acc a	aat Asn	gcc	Phe 35	gtt Val	tto L Phe	tto Lev	g gtg ı Val	. ASI	ttt Phe	tgg Trp	g gat o Asp	gta Val	L Val	g aaq L Lys	g ago s Aro	g cag g Gln	144
ttc cag aag ttg agt gaa cca ctg aac cac agc tac caa gcc atc atc 28   Phe Gln Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Gln Ala Ile Ile   85	gca Ala	ctg Leu 50	ago Ser	aac Asr	agt Ser	gat Asp	C Y S	gtg Val	ctg Leu	r cto Leu	g tgt LCys	ьer	ago 1 Ser	ato	ago Ser	cgg Arg	192
ttc cag aag ttg agt gaa cca ctg aac cac agc tac caa gcc atc atc 28   Phe Gln Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Gln Ala Ile Ile 95    atg cta tgg atg att gca aac caa gcc aac ctc tgg ctt gct gcc tgc Ala Cys 100    Met Leu Trp Met Ile Ala Asn Gln Ala 105    ctc agc ctg ctt tac tgc tcc aag ctc atc cgt ttc tct cac acc ttc leu Ser Leu Leu Tyr Cys Ser Lys Leu Ile Arg Phe Ser His Thr Phe 125    ctg atc tgc ttg gca agc tgg gtc tcc agg aag atc tcc cag atg ctc leu Ile Cys Leu Ala Ser Trp 135    ctg gt att att ctt tgc tcc tgc acc acc ttc leu Gly Ile Ile Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Trp 160    tgc ttt ttt agc aga cct cac ttc acc acc ttc acc acc ttc tt	ctt Leu 65	ttc Phe	Lev	r cat His	gga Gly		ctg Leu	ttc Phe	ctg Leu	agt Ser	Ara	ato Ile	cag Gln	ctt Leu	acc Thr	His	240
Met Leu Try Met Ile Ala Asn Gln Ala Asn Leu Try Leu Ala Ala Cys 110  ctc agc ctg ctt tac tgc tcc aag ctc atc cgt ttc tct cac acc ttc Leu Ser Leu Leu Try Cys Ser Lys 120  ctg atc tgc ttg gca agc tgg gtc tcc aag atc tcc cag atg ctc Arg Lys Ile Ser Gln Met Leu 130  ctg ggt att att ctt tgc tcc tgc atc tgc Arg Lys Ile Ser Gln Met Leu 130  ctg ggt att att ctt tgc tcc tgc atc tgc act ggt ctc tcc agg atg ctc Arg Lys Ile Ser Gln Met Leu 140  ctg ggt att att ctt tgc tcc tgc atc tgc act ggt ctc tcc tgc atc tgc Gln Met Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Try 150  ctg ttt ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg Cys Phe Phe Ser Arg Pro His Phe Thr Val Thr Thr Val Leu Phe Met 170  aat aac aat aca agg ctc aac tgg cag att aaa gat ctc aat tta ttt tta ctc ttc ttc ttc t	ttc Phe	cag Gln	aag Lys	ttg Leu		gaa Glu	cca Pro	ctg Leu	aac Asn	HIS	agc Ser	tac Tyr	caa Gln	gcc Ala	Ile	atc Ile	288
ctg atc tgc ttg gca agc tgg gtc tcc agg aag atc tcc cag atg ctc Leu Ile Cys Leu Ala Ser Trp Val Ser Arg Lys Ile Ser Gln Met Leu 130  ctg ggt att att ctt tgc tcc tgc atc tgc act gtc ctc tgt gtt tgg Leu Gly Ile Ile Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Trp 150  tgc ttt ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg Cys Phe Phe Ser Arg Pro His Phe Thr Val Thr Thr Val Leu Phe Met 165  aat aac aat aca agg ctc aac tgg cag att aaa gat ctc aat tta ttt 180  tat tcc ttt ctc ttc tgc tat ctg tgg tct gtg cct ctc ttc tgt gtf tgg 190  tat tcc ttt ctc ttc tgc tat ctg tgg tct gtg cct ctc ttc ttc ttc tgc tat ctg tgg tct gtg cct ctc ttc ttc ttc tt	atg Met	cta Leu	tgg Trp	atg Met 100	att Ile	gca Ala	aac Asn	caa Gln	ura	aac Asn	ctc Leu	tgg Trp	ctt Leu	Ala	Ala	tgc Cys	, 336
ctg ggt att att ctt tgc tcc tgc atc tgc act gtc ctc tgt gtt tgg Leu Gly Ile Ile Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Trp 155 160  tgc ttt ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg Cys Phe Phe Ser Arg Pro His Phe Thr Val Thr Val Leu Phe Met 165 170  aat aac aat aca agg ctc aac tgg cag att aaa gat ctc aat tta ttt Asn Asn Asn Thr Arg Leu Asn Trp Gln Ile Lys Asp Leu Asn Leu Phe 180 185 190  tat tcc ttt ctc ttc tgc tat ctg tgg tct gtg cct ctt ttc cta ttg Tyr Ser Phe Leu Phe Cys Tyr Leu Trp Ser Val Pro Pro Phe Leu Leu  624	ctc Leu	agc Ser		ctt Leu	tac Tyr	tgc Cys	tcc Ser	цys	ctc Leu	тте	Arg	Phe	Ser	His	acc Thr	ttc Phe	384
145  150  150  155  160  tgc ttt ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg Cys Phe Phe Ser Arg Pro His Phe Thr Val Thr Thr Val Leu Phe Met 165  160  tgc ttt ttt agc aga cct cac ttc aca gtc aca act gtg cta ttc atg 165  170  175  aat aac aat aca agg ctc aac tgg cag att aaa gat ctc aat tta ttt 180  180  185  190  tat tcc ttt ctc ttc tgc tat ctg tgg tct gtg cct cct ttc cta ttg 195  tat tcc ttt ctc ttc tgc tat ctg tgg tct gtg cct cct ttc cta ttg 195	ctg Leu	atc Ile 130	tgc Cys	ttg Leu	gca Ala	agc Ser		gtc Val	tcc Ser	agg Arg	aag Lys	тте	tcc Ser	cag Gln	atg Met	ctc Leu	432
aat aac aat aca agg ctc aac tgg cag att aaa gat ctc aat tta ttt  Asn Asn Asn Thr Arg Leu Asn Trp Gln Ile Lys Asp Leu Asn Leu Phe  180  tat tcc ttt ctc ttc tgc tat ctg tgg tct gtg cct cct ttc cta ttg  Tyr Ser Phe Leu Phe Cys Tyr Leu Trp Ser Val Pro Pro Phe Leu Leu  624	ctg Leu 145	ggt Gly	att Ile	att Ile	ctt Leu	-1-	tcc Ser	tgc Cys	atc Ile	tgc Cys	Thr	gtc Val	ctc Leu	tgt Cys	gtt Val	$\mathtt{Trp}$	480
tat tcc ttt ctc ttc tgc tat ctg tgg tct gtg cct cct ttc cta ttg  Tyr Ser Phe Leu Phe Cys Tyr Leu Trp Ser Val Pro Pro Phe Leu Leu  180  180  180  180  180  185  190  624	tgc Cys	ttt Phe	ttt Phe	agc Ser		cct Pro	cac His	ttc Phe	aca Thr	val	aca Thr	act Thr	gtg Val	cta Leu	Phe	atg Met	528
195 Pro Phe Leu Leu				180	5			TTD	185	тте	гла	Asp	Leu	Asn 190	Leu	Phe	576
	tat i	tcc Ser	ttt Phe 195	ctc Leu	ttc Phe	tgc Cys		20 C	tgg Trp	tct Ser	gtg Val	cct Pro	Pro	ttc Phe	cta Leu	ttg Leu	624

										6/447						Γ/US2004/0194
ttt Phe	Leto 210	g gtt 1 Val	tct Ser	tct Ser	: Gly	atg Met 215		act Thr	gtc Val	tcc Ser	ctg Leu 220	GTA	agg Arg	r cad His	atg Met	672
agg Arg 225	aca Thr	atç Met	aag Lys	gtc Val	tat Tyr 230		aga Arg	aac Asn	tct Ser	cgt Arg 235	Asp	ccc	ago Ser	ctg Leu	gag Glu 240	720
gcc Ala	cac His	att Ile	aaa Lys	gcc Ala 245	Leu	aag Lys	tct Ser	ctt Leu	gtc Val 250	tcc Ser	ttt Phe	ttc Phe	tgc Cys	ttc Phe 255	ttt Phe	768
gtg Val	ata Ile	tca Ser	tcc Ser 260	tgt Cys	gct Ala	gcc Ala	ttc Phe	atc Ile 265	ser	gtg Val	ccc Pro	cta Leu	ctg Leu 270	Ile	ctg Leu	816
tgg Trp	tgc Cys	gac Asp 275	aaa Lys	ata Ile	gjà aaa	gtg Val	atg Met 280	gtt Val	tgt Cys	gtt Val	GJ À aaa	ata Ile 285	atg Met	gca Ala	gct Ala	864
tgt Cys	ccc Pro 290	tct Ser	ej gaa	cat His	gca Ala	gcc Ala 295	atc Ile	ctg Leu	atc Ile	tca Ser	ggc ggc	aat Asn	gcc Ala	aag Lys	ttg Leu	912
agg Arg 305	aga Arg	gct Ala	gtg Val	atg Met	acc Thr 310	att Ile	ctg Leu	ctc Leu	tgg Trp	gct Ala 315	cag Gln	agc Ser	agc Ser	ctg Leu	aag Lys 320	960
gta Val	aga Arg	gcc Ala	gac Asp	cac His 325	aag Lys	gca Ala	gat Asp	tcc Ser	cgg Arg 330	aca Thr	ctg Leu	tgc Cys	tga			1002
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Thr	Phe	Leu	Phe 20	Ile	Ser	Val	Leu	Glu 25	Phe	Ala	Val	Gly	Phe 30	Leu	Thr	
Asn	Ala	Phe 35	Val	Phe	Leu	Val	Asn 40	Phe	Trp	Asp	Val	Val 45	Lys	Arg	Gln	
Ala	Leu 50	Ser	Asn	Ser	Asp	Cys 55	Val	Leu	Leu	Cys	Leu 60	Ser	Ile	Ser	Arg	

Leu Phe Leu His Gly Leu Leu Phe Leu Ser Ala Ile Gln Leu Thr His 65 70 75 80

Phe Gln Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Gln Ala Ile Ile

85 90 95

Met Leu Trp Met Ile Ala Asn Gln Ala Asn Leu Trp Leu Ala Ala Cys 100 105 110

Leu Ser Leu Leu Tyr Cys Ser Lys Leu Ile Arg Phe Ser His Thr Phe 115 120 125

Leu Ile Cys Leu Ala Ser Trp Val Ser Arg Lys Ile Ser Gln Met Leu 130 140

Leu Gly Ile Ile Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Trp 145 150 155 160

Cys Phe Phe Ser Arg Pro His Phe Thr Val Thr Thr Val Leu Phe Met 165

Asn Asn Asn Thr Arg Leu Asn Trp Gln Ile Lys Asp Leu Asn Leu Phe 180 180 185 190

Tyr Ser Phe Leu Phe Cys Tyr Leu Trp Ser Val Pro Pro Phe Leu Leu 195 200 205

Phe Leu Val Ser Ser Gly Met Leu Thr Val Ser Leu Gly Arg His Met 210 215 220

Arg Thr Met Lys Val Tyr Thr Arg Asn Ser Arg Asp Pro Ser Leu Glu 225 230 235 240

Ala His Ile Lys Ala Leu Lys Ser Leu Val Ser Phe Phe Cys Phe Phe 245 250 255

Val Ile Ser Ser Cys Ala Ala Phe Ile Ser Val Pro Leu Leu Ile Leu 260 265 270

Trp Cys Asp Lys Ile Gly Val Met Val Cys Val Gly Ile Met Ala Ala 275 280 285

Cys Pro Ser Gly His Ala Ala Ile Leu Ile Ser Gly Asn Ala Lys Leu 290 295 300

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Val Arg Ala Asp His Lys Ala Asp Ser Arg Thr Leu Cys 325 330

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aca ttt ctg ttc att tca gtc ctg gag ttt gca gtg ggg ttt ctg acc Thr Phe Leu Phe Ile Ser Val Leu Glu Phe Ala Val Gly Phe Leu Thr 20 25 30	96
aat gcc ttc gtt ttc ttg gtg aat ttt tgg gat gta gtg aag agg cag Asn Ala Phe Val Phe Leu Val Asn Phe Trp Asp Val Val Lys Arg Gln 35 40 45	144
gca ctg agc aac agt gat tgt gtg ctg ctg tgt ctc agc atc agc cgg Ala Leu Ser Asn Ser Asp Cys Val Leu Leu Cys Leu Ser Ile Ser Arg 50 55 60	192
ctt ttc ctg cat gga ctg ctg ttc ctg agt gct atc cag ctt acc cac Leu Phe Leu His Gly Leu Leu Phe Leu Ser Ala Ile Gln Leu Thr His 65 70 75 80	240
ttc cag aag ttg agt gaa cca ctg aac cac agc tac caa gcc atc atc Phe Gln Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Gln Ala Ile Ile 85 90 95	288

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ctc Leu	agc Ser	ctg Leu 115	ctt Leu	tac Tyr	tgc Cys	tcc Ser	aag Lys 120	ctc Leu	atc Ile	cgt Arg	ttc Phe	tct Ser 125	cac His	acc Thr	ttc Phe		384
	130	O,U	neu	n.a	per	tgg Trp 135	vaı	ser	Arg	Lys	11e 140	Ser	Gln	Met	Leu		432
145	CLy	110	116	nea	150	tcc Ser	Cys	TTE	Cys	Thr 155	Val	Leu	Суѕ	Val	Trp 160		480
-,0		-110	Der	165	FIO	cac His	rne	Tnr	170	Thr	Thr	Val	Leu	Phe 175	Met		528
11011	11011	no!!	180	Arg	ьеи	aac Asn	Trp	185	Ile	Lys	Asp	Leu	Asn 190	Leu	Phe		576
-1-	501	195	neu	rne	Cys	tat Tyr	200	Trp	Ser	Val	Pro	Pro 205	Phe	Leu	Leu		624
	210	Val	SeT	Ser	етЛ	atg Met 215	тей	Thr	Val	Ser	Leu 220	Gly	Arg	His	Met		672
225	4111	1160	ոչջ	vai	230	acc Thr	Arg	Asn	Ser	Arg 235	Asp	Pro	Ser	Leu	Glu 240		720
1110	1175	116	пув	245	ьеи	aag Lys	Ser	Leu	Val 250	Ser	Phe	Phe	Cys	Phe 255	Phe		768
gtg Val	ata Ile	tca Ser	tcc Ser 260	tgt Cys	gtt Val	gcc Ala	ttc Phe	atc Ile 265	tct Ser	gtg Val	ccc Pro	cta Leu	ctg Leu 270	att Ile	ctg Leu		816
11.0	nrg	275	гуу	тте	GIĀ	gtg Val	Met 280	Val	Cys	Val	Gly	Ile 285	Met	Ala	Ala		864
tgt Cys	ccc Pro 290	tct Ser	ej aaa	cat His	gca Ala	gcc Ala 295	atc Ile	ctg Leu	atc Ile	tca Ser	ggc Gly 300	aat Asn	gcc Ala	aag Lys	ttg Leu		912
305	rii g	nia	Val	Mer	310	att Ile	Leu	Leu	Trp	Ala 315	Gln	Ser	Ser	Leu	aag Lys 320		960
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Ala Leu Ser Asn Ser Asp Cys Val Leu Leu Cys Leu Ser Ile Ser Arg 50 55 60

Leu Phe Leu His Gly Leu Leu Phe Leu Ser Ala Ile Gln Leu Thr His 65 70 75 80

Phe Gln Lys Leu Ser Glu Pro Leu Asn His Ser Tyr Gln Ala Ile Ile 85 90 95

Met Leu Trp Met Ile Ala Asn Gln Ala Asn Leu Trp Leu Ala Ala Cys 100 105 110

Leu Ser Leu Leu Tyr Cys Ser Lys Leu Ile Arg Phe Ser His Thr Phe 115 120 125

Leu Ile Cys Leu Ala Ser Trp Val Ser Arg Lys Ile Ser Gln Met Leu 130 140

Leu Gly Ile Ile Leu Cys Ser Cys Ile Cys Thr Val Leu Cys Val Trp
145 150 155 160

Cys Phe Phe Ser Arg Pro His Phe Thr Val Thr Thr Val Leu Phe Met 165 170 175

Asn Asn Asn Thr Arg Leu Asn Trp Gln Ile Lys Asp Leu Asn Leu Phe 180 185 190

Tyr Ser Phe Leu Phe Cys Tyr Leu Trp Ser Val Pro Pro Phe Leu Leu 195 200 205

Phe Leu Val Ser Ser Gly Met Leu Thr Val Ser Leu Gly Arg His Met

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Arg Thr Met Lys Val Tyr Thr Arg Asn Ser Arg Asp Pro Ser Leu Glu 225 235 240

Ala His Ile Lys Ala Leu Lys Ser Leu Val Ser Phe Phe Cys Phe Phe 245 250 255

Val Ile Ser Cys Val Ala Phe Ile Ser Val Pro Leu Leu Ile Leu 260 265 270

Trp Arg Asp Lys Ile Gly Val Met Val Cys Val Gly Ile Met Ala Ala 275 280 285

Cys Pro Ser Gly His Ala Ala Ile Leu Ile Ser Gly Asn Ala Lys Leu 290 295 300

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Arg Met Thr Lys Leu Cys Asp Pro Ala Glu Ser Glu Leu Ser Pro Phe
20 25 30

96

ctc atc acc tta att tta gca gtt tta ctt gct gaa tac ctc att ggt 144

												32/44								US2004/0194
								u Al	- `	•					45					
		5	0					c at e Il 55				16 1	T2	60 60	L AT	a Gl	.u T	rp	Val	192
	65						70	c ac r Th		_ 01	·y A	7	5	neu	va.	L Ph	e L	eu	Ser 80	240
						85		c ca u Gl		- 20	90	) )	el	теп	GIT	ı Il	e Ti	hr 5	Ile	288
					100			t tt [.] r Ph	- 3	10	5	u n	ıς.	мта	vaı	. Ту 11	r T <u>;</u> O	/r	Ala	336
				115				a tto e Phe	12	0		.e C <u>'</u>	/S i	ser	ьеи 125	Tr	p Ph	ie .	Ala	384
	gcc	te Tr 13	p 1 0	ctc Leu	agt Ser	tto Phe	tto Phe	tac Tyr 135	tti Phe	t gte	g aa l Ly	g at s II	.e /	gcc Ala 140	aat Asn	tt. Ph	c to e Se	c i	tac Tyr	432
	145	•				_	1,50		,	2 1116	9 11	15	5 5	этЛ	Leu	Ile	e Pr	o ]	rp 160	480
						165		ttt Phe		. Ser	170	e Se	r E	lis	Ser	Met	Ph.	e ( 5	Cys	528
					180			tat Tyr	0,0	185	ASI	ıse	r P	'ne	Pro	Ile 190	Hi:	s S	er	576
	tcc Ser	aa Ası	c t n s 1	cc a er ! 95	act Thr	aag Lys	aaa Lys	aca Thr	tac Tyr 200		tct Ser	ga Gl	g a u I	Te 7	aat Asn 205	gtg Val	gto Val	c g L G	gt	624
	ctg Leu	gct Ala 210	r Pi	tt i he 1	ttc Phe	ttt Phe	aac Asn	ctg Leu 215	GJ À aaa	att Ile	gtg Val	aci Th:	F P.	ct ( ro 1	ctg Leu	atc Ile	ato Met	y t : P:	tc he	672
	atc Ile 225	cto	r ac	ca ç hr <i>F</i>	ycc Ala	acc Thr	ctg Leu 230	ctg Leu	atc Ile	ctc Leu	tct Ser	cto Lei 235	י די	ag a ys <i>l</i>	aga Arg	cac His	acc Thr	L	ta eu 40	720
	cac	atg Met	gg G]	ga a Ly S	igc a Ser i	aat Asn 245	gcc Ala	aca Thr	GJ À aaa	tcc Ser	aac Asn 250	ga c Asp	co Pi	co s	agc Ser	atg Met	gag Glu 255	go A.		768
I	cac His	atg Met	G1	gg g .y A 2	cc a la 1 60	atc [le	aaa Lys	gct Ala	atc Ile	agc Ser 265	tac Tyr	ttt Phe	ct Le	c a	те :	ctc Leu 270	_		t Le	816
ŧ	tc he	aat Asn	gc Al	a g .a V	tt g al A	jct la	ctg Leu	ttt Phe	atc Ile	tac Tyr	ctg Leu	tcc Ser	aa As	ıc a n M			gac Asp	at Il	:c .e	864

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305					310		att Ile	0111	тор	315	Pro	СТĀ	Leu	Arg	Arg 320	960
			cgg Arg	ctt Leu 325	cag Gln	ctt Leu	cga Arg	ctt Leu	cat His 330	ctt Leu	tac Tyr	cca Pro	aaa Lys	gag Glu 335	tgg Trp	1008
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Ile Ile Ala Asn Gly Phe Ile Met Ala Ile His Ala Ala Glu Trp Val

Gln Asn Lys Ala Val Ser Thr Ser Gly Arg Ile Leu Val Phe Leu Ser 75

Val Ser Arg Ile Ala Leu Gln Ser Leu Met Met Leu Glu Ile Thr Ile

Ser Ser Thr Ser Leu Ser Phe Tyr Ser Glu Asp Ala Val Tyr Tyr Ala

Phe Lys Ile Ser Phe Ile Phe Leu Asn Phe Cys Ser Leu Trp Phe Ala 120

Ala Trp Leu Ser Phe Phe Tyr Phe Val Lys Ile Ala Asn Phe Ser Tyr

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Pro 145	Leu	Phe	Leu	Lys	Leu 150	Arg	Trp	Arg	Ile	Thr 155	Gly	Leu	Ile	Pro	Trp 160
Leu	Leu	Trp	Leu	Ser 165	Val	Phe	Ile	Ser	Phe 170	Ser	His	Ser	Met	Phe 175	Cys
Ile	Asn	Ile	Cys 180	Thr	Val	Tyr	Cys	Asn 185	Asn	Ser	Phe	Pro	Ile 190	His	Ser
Ser	Asn	Ser 195	Thr	Lys	Lys	Thr	Tyr 200	Leu	Ser	Glu	Ile	Asn 205	Val	Val	Gly
Ļeu	Ala 210	Phe	Phe	Phe	Asn	Leu 215 _,	Gly	Ile	Val	Thr	Pro 220	Leu	Ile	Met	Phe
Ile 225	Leu	Thr	Ala	Thr	Leu 230	Leu	Ile	Leu	Ser	Leu 235	Lys	Arg	His	Thr	Leu 240
His	Met	Gly	Ser	Asn 245	Ala	Thr	Gly	Ser	Asn 250	Asp	Pro	Ser	Met	Glu 255	Ala
His	Met	Gly	Ala 260	Ile	Lys	Ala	Ile	Ser 265	Tyr	Phe	Leu	Ile	Leu 270	Tyr	Ile
Phe	Asn	Ala 275	Val	Ala	Leu	Phe	Ile 280	Tyr	Leu	Ser	Asn	Met 285	Phe	Asp	Ile
Asn	Ser 290	Leu	Trp	Asn	Asn	Leu 295	Cys	Gln	Ile	Ile	Met 300	Ala	Ala	Tyr	Pro
Ala 305	Ser	His	Ser	Ile	Leu 310	Leu	Ile	Gln	Asp	Asn 315	Pro	Gly	Leu	Arg	Arg 320
Ala	Trp	Lys	Arg	Leu 325	Gln	Leu	Arg	Leu	His 330	Leu	Tyr	Pro	Lys	Glu 335	Trp
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aga Arg	atg Met	act Thr	aaa Lys 20	ctc Leu	tgc Cys	gat Asp	cct Pro	gca Ala 25	gaa Glu	agt Ser	gaa Glu	ttg Leu	tcg Ser 30	cca Pro	ttt Phe		96
ctc Leu	atc Ile	acc Thr 35	tta Leu	att Ile	tta Leu	gca Ala	gtt Val 40	tta Leu	ctt Leu	gct Ala	gaa Glu	tac Tyr 45	ctc Leu	att Ile	ggt Gly	1	44
atc Ile	att Ile 50	gca Ala	aat Asn	ggt Gly	ttc Phe	atc Ile 55	atg Met	gct Ala	ata Ile	cat His	gca Ala 60	gct Ala	gaa Glu	tgg Trp	gtt Val	1	92
caa Gln 65	aat Asn	aag Lys	gca Ala	gtt Val	tcc Ser 70	aca Thr	agt Ser	ggc Gly	agg Arg	atc Ile 75	ctg Leu	gtt Val	ttc Phe	ctg Leu	agt Ser 80	2	40
gta Val	tcc Ser	aga Arg	ata Ile	gct Ala 85	ctc Leu	caa Gln	agc Ser	ctc Leu	atg Met 90	atg Met	tta Leu	gaa Glu	att Ile	acc Thr 95	atc Ile	2	88
agc Ser	tca Ser	acc Thr	tcc Ser 100	cta Leu	agt Ser	ttt Phe	tat Tyr	tct Ser 105	gaa Glu	gac Asp	gct Ala	gta Val	tat Tyr 110	tat Tyr	gca Ala	3	36
ttc Phe	aaa Lys	ata Ile 115	agt Ser	ttt Phe	ata Ile	ttc Phe	tta Leu 120	aat Asn	ttt Phe	tgt Cys	agc Ser	ctg Leu 125	tgg Trp	ttt Phe	gct Ala	3	84
gcc Ala	tgg Trp 130	ctc Leu	agt Ser	ttc Phe	ttc Phe	tac Tyr 135	ttt Phe	gtg Val	aag Lys	att Ile	gcc Ala 140	aat Asn	ttc Phe	tcc Ser	tac Tyr	4	32
ccc Pro 145	ctt Leu	ttc Phe	ctc Leu	aaa Lys	ctg Leu 150	agg Arg	tgg Trp	aga Arg	att Ile	act Thr 155	gga Gly	ttg Leu	ata Ile	ccc Pro	tgg Trp 160	4	80
ctt Leu	ctg Leu	tgg Trp	ctg Leu	tcc Ser 165	gtg Val	ttt Phe	att Ile	tcc Ser	ttc Phe 170	agt Ser	cac His	agc Ser	atg Met	ttc Phe 175	tgc Cys	5	28
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gcc Ala	tgg Trp	aag Lys		ctt Leu 325	cag Gln	ctt Leu	cga Arg	ctt Leu	cat His 330	ctt Leu	tac Tyr	cca Pro	Lys	gag Glu 335	tgg Trp	1008
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Leu Ile Thr Leu Ile Leu Ala Val Leu Leu Ala Glu Tyr Leu Ile Gly 35 40 45

Ile Ile Ala Asn Gly Phe Ile Met Ala Ile His Ala Ala Glu Trp Val

PCT/US2004/019489

50 55 60 Gln Asn Lys Ala Val Ser Thr Ser Gly Arg Ile Leu Val Phe Leu Ser Val Ser Arg Ile Ala Leu Gln Ser Leu Met Met Leu Glu Ile Thr Ile Ser Ser Thr Ser Leu Ser Phe Tyr Ser Glu Asp Ala Val Tyr Tyr Ala Phe Lys Ile Ser Phe Ile Phe Leu Asn Phe Cys Ser Leu Trp Phe Ala Ala Trp Leu Ser Phe Phe Tyr Phe Val Lys Ile Ala Asn Phe Ser Tyr Pro Leu Phe Leu Lys Leu Arg Trp Arg Ile Thr Gly Leu Ile Pro Trp Leu Leu Trp Leu Ser Val Phe Ile Ser Phe Ser His Ser Met Phe Cys Ile Asn Ile Cys Thr Val Tyr Cys Asn Asn Ser Phe Pro Ile His Ser Phe Asn Ser Thr Glu Lys Thr Tyr Leu Ser Glu Ile Asn Val Val Gly Leu Ala Phe Phe Phe Asn Leu Gly Ile Val Thr Pro Leu Ile Met Phe 215 Ile Leu Thr Ala Thr Leu Leu Ile Leu Ser Leu Lys Arg His Thr Leu 230 235 His Met Gly Ser Asn Ala Thr Gly Ser Asn Asp Pro Ser Met Glu Ala 245 250 His Met Gly Ala Ile Lys Ala Ile Ser Tyr Phe Leu Ile Leu Tyr Ile 260 265 270 Phe Asn Ala Val Ala Leu Phe Ile Tyr Leu Ser Asn Met Phe Asp Ile 285 Asn Ser Leu Trp Asn Asn Leu Cys Gln Ile Ile Met Ala Ala Tyr Pro

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aag Lys	gtc Val	acc Thr	ttc Phe 20	act Thr	ttg Leu	gtg Val	gtc Val	tcc Ser 25	gga Gly	ata Ile	gag Glu	tgc Cys	atc Ile 30	act Thr	ggc	96
atc   Ile :	ctt Leu	ggg Gly 35	agt Ser	ggc Gly	ttc Phe	atc Ile	acg Thr 40	gcc Ala	atc Ile	tat Tyr	g1y ggg	gct Ala 45	gag Glu	tgg Trp	gcc Ala	144
agg (	ggc Gly 50	aaa Lys	aca Thr			act Thr 55	OT 3	gac Asp	cgc Arg	att Ile	atg Met 60	ttg Leu	atg Met	ctg Leu	agc Ser	192
ttt t Phe S 65					70			110	Mec	ме <del>с</del> 75	ьеи	Glu	Asn	Ile	Phe 80	240
agt c	etg	cta	ttc	cga	att	gtt	tat	aac	caa	aac	tca	gtg	tat	atc	ctc	288

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gcc Ala	tgg Trp	ctc Leu 115	aaa Lys	gtc Val	ttc Phe	tat Tyr	tgt Cys 120	ctt Leu	aga Arg	att Ile	gca Ala	aac Asn 125	ttc Phe	aat Asn	cat His	384
cct Pro	ttg Leu 130	ttc Phe	ttc Phe	ctg Leu	atg Met	aag Lys 135	agg Arg	aaa Lys	atc Ile	ata Ile	gtg Val 140	ctg Leu	atg Met	cct Pro	tgg Trp	432
ctt Leu 145	ctc Leu	agg Arg	ctg Leu	tca Ser	gtg Val 150	ttg Leu	gtt Val	tcc Ser	tta Leu	agc Ser 155	ttc Phe	agc Ser	ttt Phe	cct Pro	ctc Leu 160	480
tcg Ser	aga Arg	gat Asp	gtc Val	ttc Phe 165	aat Asn	gtg Val	tat Tyr	gtg Val	aat Asn 170	agc Ser	tcc Ser	att Ile	cct Pro	atc Ile 175	ccc Pro	528
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aac Asn	ctg Leu	gta Val 195	ttt Phe	ttc Phe	tat Tyr	aac Asn	atg Met 200	GJÀ âââ	atc Ile	ttc Phe	gtt Val	cct Pro 205	ctg Leu	atc Ile	atg Met	624
ttc Phe	atc Ile 210	ctg Leu	gca Ala	gcc Ala	acc Thr	ctg Leu 215	ctg Leu	atc Ile	ctc Leu	tct Ser	ctc Leu 220	aag Lys	aga Arg	cac His	acc Thr	672
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gct Ala	cac His	ata Ile	Gly ggg	gcc Ala 245	atc Ile	aaa Lys	gcc Ala	acc Thr	agc Ser 250	tac Tyr	ttt Phe	ctc Leu	atc Ile	ctc Leu 255	tac Tyr	768
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cct Pro	gcc Ala 290	ggc Gly	cac His	tca Ser	gta Val	caa Gln 295	ctg Leu	atc Ile	ttg Leu	Gly ggc	aac Asn 300	cct Pro	GJA aaa	ctg Leu	aga Arg	912
aga Arg 305	gcc Ala	tgg Trp	aag Lys	cgg Arg	ttt Phe 310	cag Gln	cac His	caa Gln	gtt Val	cct Pro 315	ctt Leu	tac Tyr	cta Leu	aaa Lys	320 320	960
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Ser Arg Asp Val Phe Asn Val Tyr Val Asn Ser Ser Ile Pro Ile Pro

175

Ser Ser Asn Ser Thr Glu Lys Lys Tyr Phe Ser Glu Thr Asn Met Val

Asn Leu Val Phe Phe Tyr Asn Met Gly Ile Phe Val Pro Leu Ile Met 195 200 205

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Phe Ile Leu Ala Ala Thr Leu Leu Ile Leu Ser Leu Lys Arg His Thr 210 215

Leu His Met Gly Ser Asn Ala Thr Gly Ser Arg Asp Pro Ser Met Lys 230 235

Ala His Ile Gly Ala Ile Lys Ala Thr Ser Tyr Phe Leu Ile Leu Tyr 245

Ile Phe Asn Ala Ile Ala Leu Phe Leu Ser Thr Ser Asn Ile Phe Asp 260

Thr Tyr Ser Ser Trp Asn Ile Leu Cys Lys Ile Ile Met Ala Ala Tyr 275

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Gln Thr Leu

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48

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: 1	tc le	ctt Leu	ggg Gly 35	agt Ser	: Gl7	tto Phe	ato Ile	acc Thr	gco Ala	e ato	tate Ty	c Gl	g gct 7 Ala 45	gaç Glu	g tgg ı Tr <u>ı</u>	g gcc Ala	144
A	igg irg	ggc Gly 50	aaa Lys	aca Thr	cto Lev	ccc Pro	act Thr 55	: ggt	gac Asp	c cgc	att Tle	ato Met	g ttg : Leu	ı atçı Met	r cto : Lev	g agc ı Ser	192
6	5					70				Met	75	ьет	ı Glu	Asn	ı Ile	ttc Phe 80	240
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Ile Leu Gly Ser Gly Phe Ile Thr Ala Ile Tyr Gly Ala Glu Trp Ala 35 40 45

Arg Gly Lys Thr Leu Pro Thr Gly Asp Arg Ile Met Leu Met Leu Ser 50 55 60

Phe Ser Arg Leu Leu Gln Ile Trp Met Met Leu Glu Asn Ile Phe 65 70 75 80

Ser Leu Leu Phe Arg Ile Val Tyr Asn Gln Asn Ser Val Tyr Ile Leu 85 90 95

Phe Lys Val Ile Thr Val Phe Leu Asn His Ser Asn Leu Trp Phe Ala 100 105 110

Ala Trp Leu Lys Val Phe Tyr Cys Leu Arg Ile Ala Asn Phe Asn His 115 120 125

Pro Leu Phe 130	Phe Leu	Met Lys 135	Arg	Lys	Ile	Ile	Val 140	Leu	Met	Pro	Trp	
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Ser Arg Asp Val Phe Asn Val Tyr Val Asn Ser Ser Ile Pro Ile Pro 165 170 175

Ser Ser Asn Ser Thr Glu Lys Lys Tyr Phe Ser Glu Thr Asn Met Val

Asn Leu Val Phe Phe Tyr Asn Met Gly Ile Phe Val Pro Leu Ile Met 195 200 205

Phe Ile Leu Ala Ala Thr Leu Leu Ile Leu Ser Leu Lys Arg His Thr 210 215 220

Leu His Met Gly Ser Asn Ala Thr Gly Ser Arg Asp Pro Ser Met Lys 235 235 240

Ala His Ile Gly Ala Ile Lys Ala Thr Ser Tyr Phe Leu Ile Leu Tyr 245 250 255

Ile Phe Asn Ala Ile Ala Leu Phe Leu Ser Thr Ser Asn Ile Phe Asp 260 265 270

Thr Tyr Ser Ser Trp Asn Ile Leu Cys Lys Ile Ile Met Ala Ala Tyr 275 280 285

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		35		<b></b> 1	2110	116	40	ATA	тте	Tyr	GIY	A1a 45	Glu	Trp		144
,	50	-,, 0	****	цеu.	PLO	55	GТÅ	Asp	cgc Arg	Ile	Met 60	Leu	Met	Leu	Ser	192
65		9	200	200	70	GIII	тте	Trp	atg Met	Met 75	Leu	Glu	Asn	Ile	Phe 80	240
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			100	1111	Val	FIIE	ьец	105	cat His	Ser	Asn	Leu	Trp 110	Phe	Ala	336
		115	2,0	٧۵١	1116	TYL	120	ren	aga Arg	TTE	Ala	Asn 125	Phe	Asn	His	384
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cta Leu 225	cac His	atg Met	gga Gly	agc Ser	aat Asn 230	gcc Ala	aca Thr	GJÅ āāā	tcc Ser	agg Arg 235	gac Asp	ccc Pro	agc Ser	atg Met	aag Lys 240	720
			GJÀ āāā	245	116	nys	ATG	Thr	250	Tyr	Phe	Leu	Ile	Leu 255	Tyr	768
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aga Arg 305	gcc Ala	tgg Trp	aag Lys	cgg Arg	ttt Phe 310	cag Gln	cac His	caa Gln	gtt Val	cct Pro 315	ctt Leu	tac Tyr	cta Leu	aaa Lys	ggg Gly 320	960
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Arg Gly Lys Thr Leu Pro Thr Gly Asp Arg Ile Met Leu Met Leu Ser

50 55 60

Phe Ser Arg Leu Leu Gln Ile Trp Met Met Leu Glu Asn Ile Phe

Ser Leu Leu Phe Arg Ile Val Tyr Asn Gln Asn Ser Val Tyr Ile Leu

Phe Lys Val Ile Thr Val Phe Leu Asn His Ser Asn Leu Trp Phe Ala

Ala Trp Leu Lys Val Phe Tyr Cys Leu Arg Ile Ala Asn Phe Asn His

Pro Leu Phe Phe Leu Met Lys Arg Lys Ile Ile Val Leu Met Pro Trp

Leu Leu Arg Leu Ser Val Leu Val Ser Leu Ser Phe Ser Phe Pro Leu 150

Ser Arg Asp Val Phe Asn Val Tyr Val Asn Ser Ser Ile Pro Ile Pro 170

Ser Ser Asn Ser Thr Glu Lys Lys Tyr Phe Ser Glu Thr Asn Met Val 185

Asn Leu Val Phe Phe Tyr Asn Met Gly Ile Phe Val Pro Leu Ile Met 200 205

Phe Ile Leu Ala Ala Thr Leu Leu Ile Leu Ser Leu Lys Arg His Thr 215 220

Leu His Met Gly Ser Asn Ala Thr Gly Ser Arg Asp Pro Ser Met Lys 230 235

Ala His Ile Gly Ala Ile Lys Ala Thr Ser Tyr Phe Leu Ile Leu Tyr 250

Ile Phe Asn Ala Ile Ala Leu Phe Leu Ser Thr Ser Asn Ile Phe Asp 265 270

Ala Tyr Ser Ser Trp Asn Ile Leu Cys Lys Ile Ile Met Ala Ala Tyr

Pro Ala Gly His Ser Val Gln Leu Ile Leu Gly Asn Pro Gly Leu Arg 295

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Gln Thr Leu	
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atc ctt ggg agt ggc ttc atc acg gcc atc tat ggg gct gag tgg gcc 144 Ile Leu Gly Ser Gly Phe Ile Thr Ala Ile Tyr Gly Ala Glu Trp Ala 35 40 45	4
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ttt tcc agg ctc ttg cta cag att tgg atg atg ctg gag aac att ttc 240 Phe Ser Arg Leu Leu Gln Ile Trp Met Met Leu Glu Asn Ile Phe 65 70 75 80	0
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145	neu.	agg Arg	пеп	per	150	Leu	Val	Ser	Leu	Ser 155	Phe	Ser	Phe	Pro	Leu 160	480
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net	261	aac Asn	180	rnr	GIU	гуѕ	Lys	Tyr 185	Phe	Tyr	Glu	Thr	Asn 190	Met	Val	576
aac Asn	ctg Leu	gta Val 195	ttt Phe	ttc Phe	tat Tyr	aac Asn	atg Met 200	GJÀ āāā	atc Ile	ttc Phe	gtt Val	cct Pro 205	ctg Leu	atc Ile	atg Met	624
ttc Phe	atc Ile 210	ctg Leu	gca Ala	gcc Ala	acc Thr	ctg Leu 215	ctg Leu	atc Ile	ctc Leu	tct Ser	ctc Leu 220	aag Lys	aga Arg	cac His	acc Thr	672
cta Leu 225	cac His	atg Met	gga Gly	agc Ser	aat Asn 230	gcc Ala	aca Thr	gj aaa	tcc Ser	agg Arg 235	gac Asp	ccc Pro	agc Ser	atg Met	aag Lys 240	720
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Arg Gly Lys Thr Leu Pro Thr Gly Asp Arg Ile Met Leu Met Leu Ser 50 55 60

Phe Ser Arg Leu Leu Gln Ile Trp Met Met Leu Glu Asn Ile Phe 65 70 75 80

Ser Leu Leu Phe Arg Ile Val Tyr Asn Gln Asn Ser Val Tyr Ile Leu 85 90 95

Phe Lys Val Ile Thr Val Phe Leu Asn His Ser Asn Leu Trp Phe Ala 100 105 110

Ala Trp Leu Lys Val Phe Tyr Cys Leu Arg Ile Ala Asn Phe Asn His 115 120 125

Pro Leu Phe Phe Leu Met Lys Arg Lys Ile Ile Val Leu Met Pro Trp
130 135 140

Leu Leu Arg Leu Ser Val Leu Val Ser Leu Ser Phe Ser Phe Pro Leu 145 150 155 160

Ser Arg Asp Val Phe Asn Val Tyr Val Asn Ser Ser Ile Pro Ile Pro 165 170 175

Ser Ser Asn Ser Thr Glu Lys Lys Tyr Phe Tyr Glu Thr Asn Met Val

Asn Leu Val Phe Phe Tyr Asn Met Gly Ile Phe Val Pro Leu Ile Met 195 200 205

Phe Ile Leu Ala Ala Thr Leu Leu Ile Leu Ser Leu Lys Arg His Thr 210 215 220

Leu His Met Gly Ser Asn Ala Thr Gly Ser Arg Asp Pro Ser Met Lys Ala His Ile Gly Ala Ile Lys Ala Thr Ser Tyr Phe Leu Ile Leu Tyr 250

Ile Phe Asn Ala Ile Ala Leu Phe Leu Ser Thr Ser Asn Ile Phe Asp

Thr Tyr Ser Ser Trp Asn Ile Leu Cys Lys Ile Ile Met Ala Ala Tyr

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	50						55		t ga y As	5 LT	y 1.	гe	60 Met	. тел	ı Me	t Le	eu	Ser	192
65						70			t tg e Tr	e ne	75	5	Leu	i GIV	ı Ası	n Il	е.	Phe 80	240
					85				t aad r Ası	90	n As	»11	ser	vaı	Туз	: Il 95	е	Leu	288
			1	00				200	g aad 1 Asr 105	5	s 5e	r	Asn	Leu	Trp 110	Ph	е.	Ala	336
		11	5				•	120		· AT	9 44	е.	Ата	Asn 125	Phe	: As:	n i	His	384
	130	)					135		ı aaa ı Lys	, 116	3 77	e :	val 140	Leu	Met	Pr	ο :	rp	432
145						150		,	tcc Ser	TIEC	15.	5	rne	Ser	Phe	Pro	> I [	Seu 160	480
					165			-,-	gtg Val	170	se.	r :	ser	Ile	Pro	11e	e F	ro	528
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225						230			GTA aaa	Set	235	A	.sp	Pro	Ser	Met	L;	ys 40	720
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Il€	e Leu	Gly 35	Ser	Gly	Phe	Ile	Thr 40	Ala	Ile	Tyr	Gly	Ala 45	Glu	Trp	Ala	
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Ala	Trp	Leu 115	Lys	Val	Phe	Tyr	Cys 120	Leu	Arg	Ile	Ala	Asn 125	Phe	Asn	His	
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Ser Arg Asp Val Phe Asn Val Tyr Val Asn Ser Ser Ile Pro Ile Pro 165 170

Ser Ser Asn Ser Thr Glu Lys Lys Tyr Phe Tyr Glu Thr Asn Met Val 180 185

Asn Leu Val Phe Phe Tyr Asn Met Gly Ile Phe Val Pro Leu Ile Met 195 200

Phe Ile Leu Ala Ala Thr Leu Leu Ile Leu Ser Leu Lys Arg His Thr 210 215

Leu His Met Gly Ser Asn Ala Thr Gly Ser Arg Asp Pro Ser Met Lys 225 235

Ala His Ile Gly Ala Ile Lys Ala Thr Ser Tyr Phe Leu Ile Leu Tyr 245 250

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Ala Tyr Ser Ser Trp Asn Ile Leu Cys Lys Ile Ile Met Ala Ala Tyr 275

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	110	ner	atg Met 260	GIII	ASII	Asp	rne	1yr 265	Trp	Pro	Trp	Gln	11e 270	Ala	Val.	816
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aag Lys	ctt Leu 290	cga Arg	agc Ser	gtg Val	ttc Phe	tca Ser 295	cag Gln	ctc Leu	ctg Leu	ttg Leu	ttg Leu 300	gca Ala	agg Arg	ggc Gly	ttc Phe	912
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His 65	Asn	Phe	Tyr	Tyr	Ser 70	Ala	Gln	Lys	Val	Glu 75	Tyr	Ser	Gly	Gly	Leu 80	
Gly	Arg	Gln	Phe	Phe 85	His	Leu	His	Trp	His 90	Phe	Leu	Asn	Ser	Ala 95	Thr	
Phe	Trp	Phe	Cys 100	Ser	Trp	Leu	Ser	Val 105	Leu	Phe	Cys	Val	Lys 110	Ile	Ala	

Asn Ile Thr His Ser Thr Phe Leu Trp Leu Lys Trp Arg Phe Pro Gly 120 125

Trp Val Pro Trp Leu Leu Gly Ser Val Leu Ile Ser Phe Ile Ile 135 140

Thr Leu Leu Phe Phe Trp Val Asn Tyr Pro Val Tyr Gln Glu Phe Leu

Ile Arg Lys Phe Ser Gly Asn Met Thr Tyr Lys Trp Asn Thr Arg Ile 170

Glu Thr Tyr Tyr Phe Pro Ser Leu Lys Leu Val Ile Trp Ser Ile Pro 185

Phe Ser Val Phe Leu Val Ser Ile Met Leu Leu Ile Asn Ser Leu Arg 200

Arg His Thr Gln Arg Met Gln His Asn Gly His Ser Leu Gln Asp Pro 215

Ser Thr Gln Ala His Thr Arg Ala Leu Lys Ser Leu Ile Ser Phe Leu 235

Ile Leu Tyr Ala Leu Ser Phe Leu Ser Leu Ile Ile Asp Ala Ala Lys 250

Phe Ile Ser Met Gln Asn Asp Phe Tyr Trp Pro Trp Gln Ile Ala Val 265

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Asn Met Thr Trp Lys Ile Lys Leu Arg Ser Ala Met Tyr Leu Ser Asn 165 170 175

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Ile Ser Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys 195 200 205

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Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Met Lys Val His 210 215 220

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Asn Lys Pro Val Phe Met Phe Cys Glu Ala Ile Ala Phe Ser Tyr Pro 260 260 270

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Trp Leu Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn 100 105 110

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Asn Met Thr Trp Lys Ile Lys Leu Arg Ser Ala Met Tyr Leu Ser Asn 165 170 175

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Asn Lys Pro Val Phe Met Phe Cys Glu Ala Ile Ala Phe Ser Tyr Pro 260 265 270

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356/447

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Ile Glu Trp Val Lys Arg Gln Lys Ile Ser Phe Val Asp Gln Ile Leu 35 40 45

Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Leu Leu Leu 50 55 60

His Trp Tyr Ala Thr Gln Leu Asn Pro Ala Phe Tyr Ser Val Glu Val 65 70 75 80

Arg Ile Thr Ala Tyr Asn Val Trp Ala Val Thr Asn His Phe Ser Ser 85 90 95

Trp Leu Ala Thr Ser Leu Ser Met Phe Tyr Leu Leu Arg Ile Ala Asn 100 105 110

Phe Ser Asn Leu Ile Phe Leu Arg Ile Lys Arg Arg Val Lys Ser Val 115 120 125

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864

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960

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Ile Ser Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys 195

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His 210 215

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125

115 120

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Val Ser Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys 195 200 205

Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His 210 215 220

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Ala Val Ile Thr Met Asp Glu Arg Val Trp Thr Lys Glu Tyr Glu Gly

Asn Val Thr Trp Lys Ile Lys Leu Arg Asn Ala Ile His Leu Ser Ser

Leu Thr Val Thr Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Ser Leu 180 185 190

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65		_			70		71311	per	Ата	љеи 75	туг	: Gly	' Leu	. Glu	gta Val 80	240
aga Arg	att Ile	gtt Val	gct Ala	tct Ser 85	aat Asn	gcc Ala	tgg Trp	gct Ala	gta Val 90	acg Thr	aac Asn	cat His	ttc Phe	agc Ser 95	atg Met	288
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Phe	Ser	Asn 115	Leu	Ile	Ser	Leu	His 120	Leu	Lys	Lys	Arg	Ile 125	Gln	Ser	Val	

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Asn Val Thr Trp Lys Ile Lys Leu Arg Asn Ala Ile His Leu Ser Ser 165

Leu Thr Val Thr Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Ser Leu 180 185

Ile Cys Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys 195 200

Met Arg Leu His Ser Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His 210 215

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Met Leu Phe Ala Ile 230

Tyr Phe Leu Cys Ile Ile Thr Ser Thr Trp Asn Leu Arg Thr Gln Gln 245

Ser Lys Leu Val Leu Leu Cys Gln Thr Val Ala Ile Met Tyr Pro

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Arg	Ile	Val	Ala	Ser 85	Asn	Ala	Trp	Ala	Val 90	Thr	Asn	His	Phe	Ser 95	Met
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gtt Val	ctg Leu 130	gtg Val	ata Ile	ctg Leu	ttg Leu	ggg Gly 135	ccc Pro	ttg Leu	gta Val	ttt Phe	ttg Leu 140	att Ile	tgt Cys	aat Asn	ctt Leu	432	!
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393/447	

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Arg	Ile	Val	Ala	Ser 85	Asn	Ala	Trp	Ala	Val 90	Thr	Asn	His	Phe	Ser 95	Met	

Trp Leu Ala Ala Ser Leu Ser Ile Phe Cys Leu Leu Lys Ile Ala Asn 100 105 110

Phe Ser Asn Leu Ile Ser Leu His Leu Lys Lys Arg Ile Lys Ser Val 115 120

Val Leu Val Ile Leu Leu Gly Pro Leu Val Phe Leu Ile Cys Asn Leu 135

Ala Val Ile Thr Met Asp Glu Arg Val Trp Thr Lys Glu Tyr Glu Gly 150

Asn Val Thr Trp Lys Ile Lys Leu Arg Asn Ala Ile His Leu Ser Ser 165

Leu Thr Val Thr Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Ser Leu 180

Ile Cys Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys

Met Arg Leu His Ser Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His

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Tyr Phe Leu Cys Ile Ile Thr Ser Thr Trp Asn Leu Arg Thr Gln Gln 250

Ser Lys Leu Val Leu Leu Cys Gln Thr Val Ala Ile Met Tyr Pro 265 270

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Phe Val Leu Gly Asn Val Ala Asn Gly Phe Ile Ala Leu Val Asn Ile
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                                                                         144
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                                                                        192
Thr Ala Leu Val Val Ser Arg Ile Gly Leu Leu Trp Val Met Leu Phe
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tac Tyr	ttt Phe	ctg Leu	tgt Cys	ata Ile 245	atc Ile	aca Thr	tca Ser	act Thr	tgg Trp 250	aat Asn	ctt Leu	agg Arg	aca Thr	cag Gln 255	cag Gln	7	768
	-,-	Dea	260	nea	neu	ctt Leu	Cys	265	Thr	Val	Ala	Ile	Met 270	Tyr	Pro	8	316
tca Ser	ttc Phe	cac His 275	tca Ser	ttc Phe	atc Ile	ctg Leu	att Ile 280	atg Met	gga Gly	agt Ser	agg Arg	aag Lys 285	cta Leu	aaa Lys	cag Gln	8	364
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Arg Ile Val Ala Ser Asn Ala Trp Ala Val Thr Asn His Phe Ser Met 85 90 95

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Leu Thr Val Thr Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Ser Leu 180 185 190

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Met Arg Leu His Ser Lys Gly Ser Gln Asp Pro Ser Thr Lys Val His 210 220

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Leu Trp Tyr Ala Thr Val Phe Asn Ser Ala Leu Tyr Gly Leu Glu Val 

Arg Ile Val Ala Ser Asn Ala Trp Ala Val Thr Asn His Phe Ser Met 

Trp Leu Ala Ala Ser Leu Ser Ile Phe Cys Leu Leu Lys Ile Ala Asn 100 105 110

Phe Ser Asn Leu Ile Ser Leu His Leu Lys Lys Arg Ile Lys Ser Val

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Val Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Met Leu Phe Ala Ile 225 230 235 240

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Ser Lys Leu Val Leu Leu Cys Gln Thr Val Ala Ile Met Tyr Pro 260 265 270

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				85					90	L In	r As	n Hi	3 Phe	Sei 95	atc Ile	288
			100	)				105	; : 131	те:	л те	и гу	11e	: Va] )	aat Asn	336
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	130	)				135	501	neu	rne	: PNE	ьец 14(	ı Val )	. Cys	His	ctt	432
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Ile Ala Trp Val Lys Arg Gln Lys Ile Ser Ser Ala Asp Gln Ile Ile 35 40 45

Ala Ala Leu Ala Val Ser Lys Val Gly Leu Leu Trp Val Ile Leu Leu 50 55 60

His Trp Tyr Ser Thr Val Leu Asn Pro Thr Ser Ser Asn Leu Lys Val 65 70 75 80

Ile Ile Phe Ile Ser Asn Ala Trp Ala Val Thr Asn His Phe Ser Ile 85 90 95

Trp Leu Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Val Asn 100 105 110

Phe Ser Arg Leu Ile Phe His His Leu Lys Arg Lys Ala Lys Ser Val 115 120 125

Val Leu Val Ile Val Leu Gly Ser Leu Phe Phe Leu Val Cys His Leu 130 135 140

Val Met Lys His Thr Tyr Ile Asn Val Trp Thr Glu Glu Cys Glu Gly 145 150 155 160

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Leu Thr Val Ala Met Leu Ala Asn Leu Ile Pro Phe Thr Leu Thr Leu 180 185 190

#### WO 2005/007891 PCT/US2004/019489 407/447

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Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Ile His

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Ser Phe His Ser Phe Ile Leu Ile Trp Gly Asn Lys Thr Leu Lys Gln 275 280

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цуз	GIU	тте	260	ьеи	Met	Leu	Суѕ	Gln 265	Ala	Phe	Gly	Ile	gta Val 270	Tyr	Pro	816
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Ile Ala Trp Val Lys Arg Gln Lys Ile Ser Ser Ala Asp Gln Ile Ile 35 40 45

25

Ala Ala Leu Ala Val Ser Lys Val Gly Leu Leu Trp Val Ile Leu Leu 50 60

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Asn Val Thr Trp Lys Ile Lys Leu Arg Asn Ala Met His Leu Ser Asn 165 170 175

Leu Thr Val Ala Met Leu Ala Asn Leu Ile Pro Phe Thr Leu Thr Leu 180 185 190

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Met Gln Leu His Gly Lys Gly Ser Gln Asp Pro Ser Thr Lys Ile His 210 215 220

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Val Leu Leu Ala Ile 225 230 235 240

Tyr Phe Leu Cys Leu Ile Ile Ser Phe Trp Asn Ser Lys Met Leu Pro 245 250 255

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427/447 35 40

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Ile	Ala	Trp 3 ¹ 5	Val	Lys	Arg	Gln	Lys 40	Ile	Ser	Ser	Ala	Asp 45	Gln	Ile	Ile		
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Lys Glu Ile Val Leu Met Leu Cys Gln Ala Phe Gly Ile Ile Tyr Pro 265

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Ile Ser Phe Leu Met Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys

Met Gln Leu His Gly Glu Gly Ser Gln Asp Leu Ser Thr Lys Val His

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Phe Ser Asn I 115	Leu Leu Phe Le	u His Leu 1 120	Lys Arg Arg Val Arg So 125	er Val
Ile Leu Val I 130	Ile Leu Leu Gl 13	y Thr Leu : 5	Ile Phe Leu Val Cys H: 140	is Leu

Leu Val Ala Asn Met Asp Glu Ser Met Trp Ala Glu Glu Tyr Glu Gly 150 Asn Met Thr Gly Lys Met Lys Leu Arg Asn Thr Val His Leu Ser Tyr Leu Thr Val Thr Thr Leu Trp Ser Phe Ile Pro Phe Thr Leu Ser Leu 180 185 Ile Ser Phe Leu Met Leu Ile Cys Ser Leu Tyr Lys His Leu Lys Lys 195 200 Met Gln Leu His Gly Glu Gly Ser Gln Asp Leu Ser Thr Lys Val His 210 Ile Lys Ala Leu Gln Thr Leu Ile Ser Phe Leu Leu Cys Ala Ile 225 235 240 Phe Phe Leu Phe Leu Ile Val Ser Val Trp Ser Pro Arg Arg Leu Arg 245 250 Asn Asp Pro Val Val Met Val Ser Lys Ala Val Gly Asn Ile Tyr Leu 260 265 270 Ala Phe Asp Ser Phe Ile Leu Ile Trp Arg Thr Lys Lys Leu Lys His 275 280 285 Thr Phe Leu Leu Ile Leu Cys Gln Ile Arg Cys 290 295 <210> 257 <211> 900 <212> DNA <213> homo sapiens <220> <221> CDS <222> (1)..(900) <220> <221> variation <222> (155)..(155) <223> SNP <220> <221> variation <222> (181)..(181)

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ttt Phe	gtt Val	ctc Leu	gga Gly 20	aac Asn	ttt Phe	gcc Ala	aat Asn	ggc Gly 25	ttc Phe	ata Ile	gca Ala	ctg Leu	gta Val 30	aat Asn	ttc Phe	9	6
att Ile	gac Asp	tgg Trp 35	gtg Val	aag Lys	aga Arg	aaa Lys	aag Lys 40	atc Ile	tcc Ser	tca Ser	gct Ala	gac Asp 45	caa Gln	att Ile	ctc Leu	14	4
act Thr	gct Ala 50	ctg Leu	gcg Ala	gtc Val	tcc Ser	aga Arg 55	att Ile	ggt Gly	ttg Leu	ctc Leu	tgg Trp 60	tca Ser	tta Leu	tta Leu	tta Leu	19	2
aat Asn 65	tgg Trp	tat Tyr	tta Leu	act Thr	gtg Val 70	ttg Leu	aat Asn	cca Pro	gct Ala	ttt Phe 75	tat Tyr	agt Ser	gta Val	gaa Glu	tta Leu 80	24	0
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gca Ala	ttc Phe	gac Asp 275	tca Ser	ttc Phe	atc Ile	cta Leu	att Ile 280	tgg Trp	aga Arg	acc Thr	aag Lys	aag Lys 285	cta Leu	aaa Lys	cac His	864
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Ile Asp Trp Val Lys Arg Lys Lys Ile Ser Ser Ala Asp Gln Ile Leu 35 40 45

Thr Ala Leu Ala Val Ser Arg Ile Gly Leu Leu Trp Ser Leu Leu 50 55 60

Asn Trp Tyr Leu Thr Val Leu Asn Pro Ala Phe Tyr Ser Val Glu Leu 65 70 75 80

Arg Ile Thr Ser Tyr Asn Ala Trp Val Val Thr Asn His Phe Ser Met 85 90 95

Trp Leu Ala Ala Asn Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn

Phe Ser Asn Leu Leu Phe Leu His Leu Lys Arg Arg Val Arg Ser Val 115

Ile Leu Val Ile Leu Leu Gly Thr Leu Ile Phe Leu Val Cys His Leu 130 135 140

Leu Val Ala Asn Met Asp Glu Ser Met Trp Ala Glu Glu Tyr Glu Gly 145 150 155 160

Asn Met Thr Gly Lys Met Lys Leu Arg Asn Thr Val His Leu Ser Tyr 165 170 175

Leu Thr Val Thr Thr Leu Trp Ser Phe Ile Pro Phe Thr Leu Ser Leu 180 185 190

Ile Ser Phe Leu Met Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys 195 200 205

Met Gln Leu His Gly Glu Gly Ser Gln Asp Leu Ser Thr Lys Val His 210 220

Ile Lys Ala Leu Gln Thr Leu Ile Ser Phe Leu Leu Cys Ala Ile 225 230 235 240

Phe Phe Leu Phe Leu Ile Val Ser Val Trp Ser Pro Arg Arg Leu Arg 245 250 255

Asn Asp Pro Val Val Met Val Ser Lys Ala Val Gly Asn Ile Tyr Leu 260 265 270

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act Thr	gct Ala 50	ctg Leu	gtg Val	gto Val	tcc Ser	aga Arg 55	att Ile	ggt Gly	ttg Leu	ctc Leu	tgg Trp	gca Ala	tta Leu	tta Leu	tta Leu	192
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				85		1120	ııp	vaı	90	rnr	Asn	His	Phe	Ser 95	atg Met	288
			100		200	Der	116	105	Tyr	Leu	Leu	Lys	Ile 110	Ala	aat Asn	336
		115	•			Lou	120	neu	пЛа	Arg	Arg	Val 125	Arg	Ser		384
	130				200	135	1111	ttg Leu	тте	Pue	Leu 140	Val	Cys	His	Leu	432
145					150	O.L.u	per	atg Met	irp	155	GLu	Glu	Tyr	Glu	Gly 160	480
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	440/448	~ 01/002004/019409

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gca Ala	ttc Phe	gac Asp 275	tca Ser	ttc Phe	atc Ile	cta Leu	att Ile 280	tgg Trp	aga Arg	acc Thr	aag Lys	aag Lys 285	cta Leu	aaa Lys	cac His	864
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Ile	Asp	Trp 35	Val	Lys	Arg	Lys	Lys 40	Ile	Ser	Ser	Ala	Asp 45	Gļn	Ile	Leu	
Thr	Ala 50	Leu	Val	Val	Ser	Arg 55	Ile	Gly	Leu	Leu	Trp 60	Ala	Leu	Leu	Leu	
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Arg	Ile	Thr	Ser	Tyr 85	Asn	Ala	Trp	Val	Val 90	Thr	Asn	His	Phe	Ser 95	Met	

Trp Leu Ala Ala Asn Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn 100 105 110

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Phe Ser Asn Leu Leu Phe Leu His Leu Lys Arg Arg Val Arg Ser Val

Ile Leu Val Ile Leu Leu Gly Thr Leu Ile Phe Leu Val Cys His Leu

Leu Val Ala Asn Met Asp Glu Ser Met Trp Ala Glu Glu Tyr Glu Gly 160

Asn Met Thr Gly Lys Met Lys Leu Arg Asn Thr Val His Leu Ser Tyr

Leu Thr Val Thr Thr Leu Trp Ser Phe Ile Pro Phe Thr Leu Ser Leu 185

Ile Ser Phe Leu Met Leu Ile Cys Ser Leu Tyr Lys His Leu Lys Lys 200

Met Gln Leu His Gly Glu Gly Ser Gln Asp Leu Ser Thr Lys Val His

Ile Lys Ala Leu Gln Thr Leu Ile Ser Phe Leu Leu Cys Ala Ile 235

Phe Phe Leu Phe Leu Ile Val Ser Val Trp Ser Pro Arg Arg Leu Arg 250

Asn Asp Pro Val Val Met Val Ser Lys Ala Val Gly Asn Ile Tyr Leu 265

Ala Phe Asp Ser Phe Ile Leu Ile Trp Arg Thr Lys Lys Leu Lys His 285

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				20						25		JCu	ne.	u A	. y	теі	ı va 30	LT 2	Ala	ata Ile	
		3	5					4	0		_		013	y ve	ıт	45	ı Tr	p \	/al	cta Leu	144
	g ag g Ar 50	)					55	•		~1.		cu	пес	1 va 60	  - <b>  -</b>	ser	Le	u G	ly	Ala	192
05	t cg r Ar					70						••	75	лу	ъ,	TIIE	T.T.	9 T	yr	Val 80	240
	c tt e Le				85						9(	0	110	v d	т 1	ьец	GII	1 P 9	he 5	Leu	288
	t tto a Pho			100						105			T11T	те	u 1	rp	Ser	: S	er	Thr	336
	g cto Lev	11	.5				_	12	0	-1-			nia	T 111	1	25	Thr	. Н:	is	Pro	384
	tto Phe	)					135	5			-	- \	2 T. A	140	) , T	eu	Pro	Tı	p l	Met	432
145	tto Phe					150			_	_		1	55	THE	1.	те	ьeu	Ph	ie I	?he 160	480
	ggc				165		-				17	0	eu	Arg	A	sn	His	Le 17	a c u 0 5	aa Sln	528
	tgg Trp		1	80			_		1	85	;	9 0	GI	ıyr	C2	ys (	Glu 190	aa Ly	a t s P	he	576
tat Tyr	ctc Leu	Pho 195	C C P.	ct (	cta Leu	aaa Lys	atg Met	att Ile 200		ct hr	tgç Trp	ја ЭТ	ca . hr 1	atg Met	CC Pr 20	co :	act	gc Ala	t g a V	tc al	624
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aag Lys	aag Lys	gct Ala	ct Le	eu I	ett . Leu '	aca Thr	acc Thr	tca Ser	G]	ga t Ly I	ttc Phe	C C			cc Pr	c a	gt	gto Val	g Ca	ag ln	720

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250

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gca Ala	gca Ala 290	gtt Val	cac His	ccc Pro	atc Ile	att Ile 295	ctg Leu	ctc Leu	ttc Phe	agc Ser	aac Asn 300	tgc Cys	agg Arg	ctg Leu	aga Arg	912
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Arg Arg Met Leu Leu Pro Cys Asp Lys Leu Leu Val Ser Leu Gly Ala 50 55 60

Ser Arg Phe Cys Leu Gln Ser Val Val Met Gly Lys Thr Ile Tyr Val 65 70 75 80

Phe Leu His Pro Met Ala Phe Pro Tyr Asn Pro Val Leu Gln Phe Leu 85 90 95

Ala Phe Gln Trp Asp Phe Leu Asn Ala Ala Thr Leu Trp Ser Ser Thr 100 105 110

Trp Leu Ser Val Phe Tyr Cys Val Lys Ile Ala Thr Phe Thr His Pro 115 120 125 Val Phe Phe Trp Leu Lys His Lys Leu Ser Gly Trp Leu Pro Trp Met 130 135 140

Leu Phe Ser Ser Val Gly Leu Ser Ser Phe Thr Thr Ile Leu Phe Phe 145 150 155 160

Ile Gly Asn His Arg Met Tyr Gln Asn Tyr Leu Arg Asn His Leu Gln 165 170 175

Pro Trp Asn Val Thr Gly Asp Ser Ile Arg Ser Tyr Cys Glu Lys Phe 180 185 190

Tyr Leu Phe Pro Leu Lys Met Ile Thr Trp Thr Met Pro Thr Ala Val

Phe Phe Ile Cys Met Ile Leu Leu Ile Thr Ser Leu Gly Arg His Arg 210 215 220

Lys Lys Ala Leu Leu Thr Thr Ser Gly Phe Arg Glu Pro Ser Val Gln 225 235 240

Ala His Ile Lys Ala Leu Leu Ala Leu Leu Ser Phe Ala Met Leu Phe 245 250 255

Ile Ser Tyr Phe Leu Ser Leu Val Phe Ser Ala Ala Gly Ile Phe Pro 260 265 270

Pro Leu Asp Phe Lys Phe Trp Val Trp Glu Ser Val Ile Tyr Leu Cys 275 280 285

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	•	35	1	-110	116	1111	40	ATS	тел	СТУ	Val	Glu 45	Trp	Val	cta Leu	144	Į
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WO 2005/007891 446/													PCT/US2004/019			
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cct Pro	ctg Leu	gac Asp 275	ttt Phe	aaa Lys	ttc Phe	tgg Trp	gtg Val 280	tgg Trp	gag Glu	tca Ser	gtg Val	att Ile 285	tat Tyr	ctg Leu	tgt Cys	864
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Ala	Gly	Asn 35	Gly	Phe	Ile	Thr	Ala 40	Ala	Leu	Gly	Val	Glu 45	Trp	Val	Leu	
Arg	Arg 50	Met	Leu	Leu	Pro	Cys 55	Asp	Lys	Leu	Leu	Val 60	Ser	Leu	Gly	Ala	
Ser 65	Arg	Phe	Cys	Leu	Gln 70	Ser	Val	Val	Met	Gly 75	Lys	Thr	Ile	Tyr	Val 80	
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Ala Phe Gln Trp Asp Phe Leu Asn Ala Ala Thr Leu Trp Ser Ser Thr 

Trp Leu Ser Val Phe Tyr Cys Val Lys Ile Ala Thr Phe Thr His Pro 

Val	Phe 130	Phe	Trp	Leu	Lys	His 135	Lys	Leu	Ser	Gly	Trp 140	Leu	Pro	Trp	Met
Leu 145	Phe	Ser	Ser	Val	Gly 150	Leu	Ser	Ser	Phe	Thr 155	Thr	Ile	Leu	Phe	Phe 160
Ile	Gly	Asn	His	Arg 165	Met	Tyr	Gln	Asn	Tyr 170	Leu	Arg	Asn	His	Leu 175	Gln
Pro	Trp	Asn	Val 180	Thr	Gly	Asp	Ser	Ile 185	Arg	Ser	Tyr	Суз	Glu 190	Lys	Phe
Tyr	Leu	Phe 195	Pro	Leu	Lys	Leu	Ile 200	Thr	Trp	Thr	Met	Pro 205	Thr	Ala	Val
Phe	Phe 210	Ile	Cys	Met	Ile	Leu 215	Leu	Ile	Thr	Ser	Leu 220	Gly	Arg	His	Arg
Lys 225	Lys	Ala	Leu	Leu	Thr 230	Thr	Ser	Gly	Phe	Arg 235	Glu	Pro	Ser	Val	Gln 240
Ala	His	Ile	Lys	Ala 245	Leu	Leu	Ala	Leu	Leu 250	Ser	Phe	Ala	Met	Leu 255	Phe
Ile	Ser	Tyr	Phe 260	Leu	Ser	Leu	Val	Phe 265	Ser	Ala	Ala	Gly	Ile 270	Phe	Pro
Pro	Leu	Asp 275	Phe	Lys	Phe	Trp	Val 280	Trp	Glu	Ser	Val	Ile 285	Tyr	Leu	Cys
Ala	Ala 290	Val	His	Pro	Ile	Ile 295	Leu	Leu	Phe	Ser	Asn 300	Cys	Arg	Leu	Arg
Ala 305	Val	Leu	Lys	Ser	Arg 310	Arg	Ser	Ser	Arg	Cys 315	Gly	Thr	Pro		